



# 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

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**October 27, 2015**

**7:00 P.M.**

**Council Board Room**

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1. ROLL CALL
2. APPROVAL OF AGENDA
3. MINUTES – October 13, 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

### **PRELIMINARY SITE PLAN REVIEW**

8. PRELIMINARY SITE PLAN REVIEW (File Number SP 1010) – Proposed SRB Medical Dental Building, East side of Crooks, South of Wattles (3960 Crooks), Section 21, Currently Zoned NN “I” (Neighborhood Node “I”) District

### **OTHER BUSINESS**

9. MASTER PLAN UPDATE
10. PUBLIC COMMENT – Items on Current Agenda
11. 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](mailto: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 October 13, 2015 in the Council Board Room of the Troy City Hall.

1. ROLL CALL

Present:

Karen Crusse  
Donald Edmunds  
Carlton M. Faison  
Michael W. Hutson  
Tom Krent  
Philip Sanzica  
John J. Tagle

Absent:

Ollie Apahidean  
Padma Kuppa

Also Present:

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

2. APPROVAL OF AGENDA

**Resolution # PC-2015-10-061**

Moved by: Crusse  
Seconded by: Tagle

**RESOLVED**, To approve the Agenda as prepared.

Yes: All present (7)

**MOTION CARRIED**

3. APPROVAL OF MINUTES

**Resolution # PC-2015-10-062**

Moved by: Hutson  
Seconded by: Krent

**RESOLVED**, To approve the minutes of the September 22, 2015 Regular meeting as published.

Yes: All present (7)

**MOTION CARRIED**

4. PUBLIC COMMENT – Items not on the Agenda

There was no one present who wished to speak.

**PRELIMINARY SITE PLAN REVIEW**

5. 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. Savidant recommended postponement of this item to allow City Administration to assess the request from DTE to use Doyle Road for construction traffic.

**Resolution # PC-2015-10-063**

Moved by: Krent

Seconded by: Sanzica

**RESOLVED**, To postpone the DTE Ariel Substation item.

Yes: All present (7)

**MOTION CARRIED**

**OTHER BUSINESS**

6. MASTER PLAN UPDATE

Mr. Savidant reviewed the timeline for the Master Plan Update. General discussion followed.

7. PUBLIC COMMENT – Items on Current Agenda

There was no one present who wished to speak.

8. PLANNING COMMISSION COMMENT

There was general discussion on:

- Michigan Association of Planning Conference.
- October 12, 2015 City Council/Planning Commission Joint Meeting.
- Big Beaver Corridor development; Zoning Ordinance Text Amendment vs Moratorium.
- Preliminary Site Plan Application; 3-D presentation.
- Trails and Pathways Committee.
- Sign Ordinance.
- Civic Center property.

Mr. Savidant announced the following dates and stated the Planning Commission is invited to attend the Annual Retreat:

- November 9, 2015 – Joint City Council/Planning Commission meeting, Trails and Pathways.
- November 23, 2015 – Joint City Council/Planning Commission meeting, Master Plan.
- February 26 and 27, 2016 – City of Troy Annual Retreat.

The Regular meeting of the Planning Commission adjourned at 8:07 p.m.

Respectfully submitted,

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Donald Edmunds, Chair

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Kathy L. Czarnecki, Recording Secretary

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DATE: October 22, 2015

TO: Planning Commission

FROM: R. Brent Savidant, Planning Director

SUBJECT: PRELIMINARY SITE PLAN REVIEW (File Number SP 1010) – Proposed SRB Medical Dental Building, East side of Crooks, South of Wattles (3960 Crooks), Section 21, Currently Zoned NN “I” (Neighborhood Node “I”) District

The petitioner Nosan Ventures LLC submitted the above referenced Preliminary Site Plan application for a proposed medical/dental office building at 3960 Crooks.

The property is currently zoned NN (Neighborhood Node) Zoning District (Node “I”). The Planning Commission is responsible for granting Preliminary Site Plan approval for this item.

The attached report prepared by Carlisle/Wortman Associates, Inc. (CWA), the City’s Planning Consultant, summarizes the project. CWA prepared the report with input from various City departments including Planning, Engineering, Public Works and Fire. City Management supports the findings of fact contained in the report and the recommendations included therein.

Attachments:

1. Maps
2. Report prepared by Carlisle/Wortman Associates, Inc.

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**PROPOSED RESOLUTION**

PRELIMINARY SITE PLAN REVIEW (File Number SP 1010) – Proposed SRB Medical Dental Building, East side of Crooks, South of Wattles (3960 Crooks), Section 21, Currently Zoned NN “I” (Neighborhood Node “I”) District

**Resolution # PC-2015-10-**

Moved by:

Seconded by:

**RESOLVED**, That Preliminary Site Plan Approval, pursuant to Article 8 of the Zoning Ordinance, as requested for the proposed SRB Medical Dental Building, located on the east side of Crooks and south of Wattles (3960 Crooks), Section 21, within the NN (Neighborhood Node “I”) District, be granted, subject to the following:

1. The applicant shall utilize stormwater best management to eliminate the need for the traditional detention pond; or at a minimum to reduce the size of the detention pond to eliminate the need for the fence and be able to reconfigure to allow for cross-access.
2. Resubmit the site plan with dimensional figures provided and topographic and utility lines removed.
3. Provide cross-access easements to the north and south properties.
4. Extend the 8-foot sidewalk along Crooks Road along the entire length of the site.
5. Widen the concrete approach to Crooks Road 30 feet wide and have a 30 feet radii.
6. Provide the required bicycle parking.
7. Break up thirteen (13) spaces along the southern parking lot and the seventeen (17) spaces along the eastern parking lot with a landscape peninsula.
8. Consider more creative planting/hardscape between the building and Crooks Road.
9. Provide details of parking lot wall screening.
10. Provide trash enclosure locations on site plan and trash enclosure details.
11. Confirm that building light fixture is a full cut-off fixture or a fully shielded fixture.
12. Provide 3D model or colored rendering for resubmittal.

\_\_\_\_\_ ) or

(denied, for the following reasons: \_\_\_\_\_) or

(postponed, for the following reasons: \_\_\_\_\_)

Yes:

No:

**MOTION CARRIED/FAILED**



Legend:

Aerial

- Red: Band\_1
- Green: Band\_2
- Blue: Band\_3

250 0 125 250 Feet

Scale 1: 1,500



**Legend:**

**Form Based Zoning 2**

- (PUD) Planned Unit Development
- (CF) Community Facilities District
- (EP) Environmental Protection District
- (BB) Big Beaver Road
- (MR) Maple Road
- (NN) Neighborhood Nodes (A-U)
- (CB) Community Business
- (GB) General Business
- (IB) Integrated Industrial Business District
- (O) Office Building District
- (OM) Office Mixed Use
- (P) Vehicular Parking District
- (R-1A) One Family Residential District
- (R-1B) One Family Residential District
- (R-1C) One Family Residential District
- (R-1D) One Family Residential District
- (R-1E) One Family Residential District
- (RT) One Family Attached Residential District
- (MF) Multi-Family Residential
- (MHP) Manufactured Housing
- (UR) Urban Residential
- (RC) Research Center District
- (PV) Planned Vehicle Sales

**Aerial**

- Red: Band\_1
- Green: Band\_2
- Blue: Band\_3

333 0 167 333Feet

Scale 1: 2,000

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.



CARLISLE

WORTMAN  
associates, inc.

605 S. Main Street, Ste. 1  
Ann Arbor, MI 48104

(734) 662-2200  
(734) 662-1935 Fax

Date: October 20, 2015

## Preliminary Site Plan Review For City of Troy, Michigan

<b>Applicant:</b>	Terry Nosan, Nosan Ventures
<b>Project Name:</b>	SRB Medical/Dental Building
<b>Plan Date:</b>	September 28, 2015
<b>Location:</b>	3960 Crooks Road: East side of Crooks Road, south of Wattles
<b>Zoning:</b>	NN, Neighborhood Node Form Based District
<b>Action Requested:</b>	Preliminary Site Plan Approval

### PROJECT AND SITE DESCRIPTION

The applicant is requesting preliminary site plan approval for an office development on the east side of Crooks Road, south of Wattles Road. The 1.1 acre site is currently improved with a single-family home. The applicant is proposing a 9,600 sq. ft. medical and dental office. There will be one point of access to the site off Crooks Rd., and a second point of access from shared access with the adjacent 7-Eleven to the north.

The property is zoned Neighborhood Node, form-base district. The building placement complies with neighborhood node building placement requirements. The proposed office use is permitted by-right within the District and requires Site Plan approval from the Planning Commission.

Location of Subject Property:

East side of Crooks Rd. south of Waddles Rd.

Proposed Use of Subject Parcel:

Medical and Dental Office

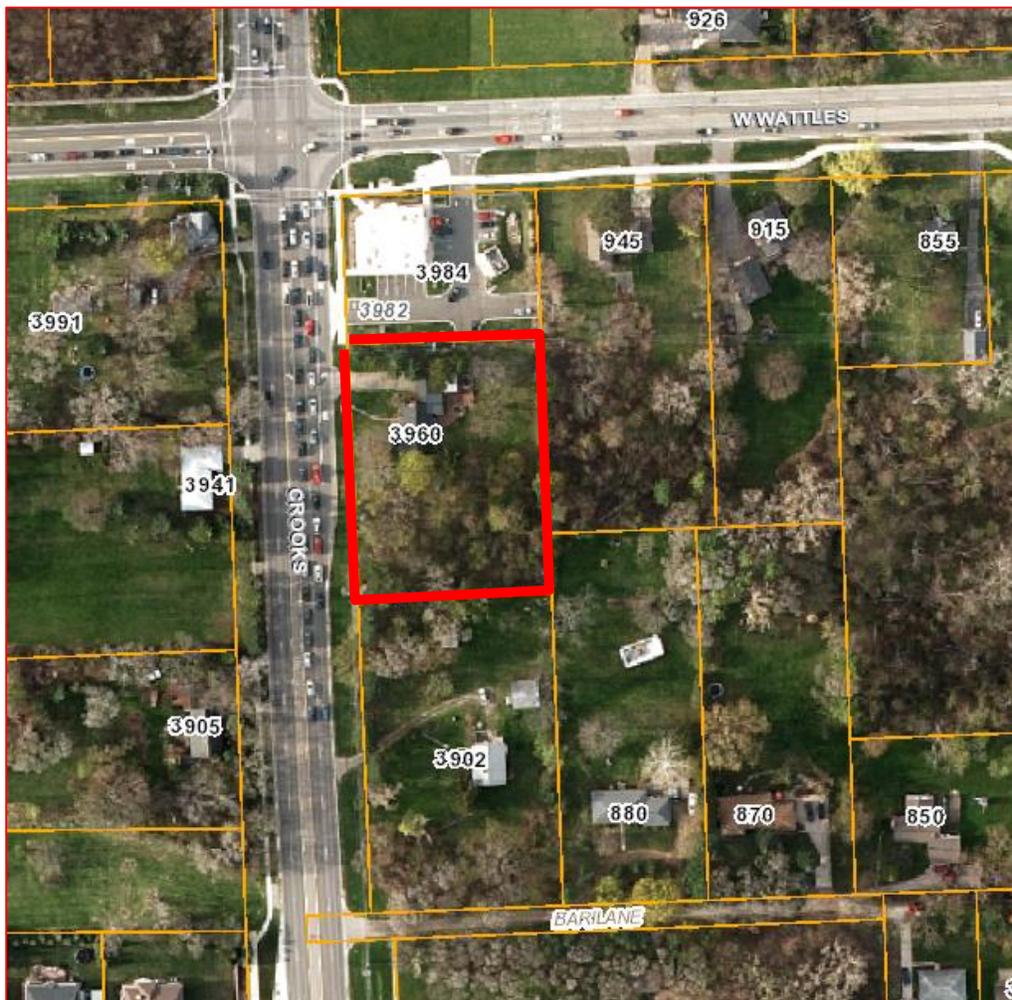
Current Use of Subject Property:

Single-family residential

Current Zoning:

The property is currently zoned Neighborhood Node Form-base District

**Figure 1. – Subject Site Location**



**Table 1. – Adjacent Zoning and Land Use**

Direction	Zoning	Use
North	NN, Neighborhood Node	7-Eleven
South	NN, Neighborhood Node	Single-family Residential
East	NN, Neighborhood Node	Single-family Residential
West	NN, Neighborhood Node	Single-family Residential

## MASTER PLAN

The subject site is located within a Neighborhood Node of the Troy 2008 Master Plan. 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. Additional goals in the Master Plan include access management, high-quality architecture, and integrated developments. If applicant addresses site plan issues noted below, the development would be consistent with the neighborhood node designation of the Master Plan.

**Items to be Addressed:** Address site plan issues noted below

## NATURAL FEATURES

**Topography** – The site is relatively flat with little elevation changes.

**Woodlands** – The applicant has submitted a tree survey. Trees on site include Spruce, Cherry, Maple, and Elm. Many are in fair to poor quality, and include many prohibited species including the large Silver and Norway Maples, and Box Elders. The applicant will remove approximately 85 trees from the site.

**Wetlands/Floodplain** – There are no identified wetlands on the site and the site is not located in the floodplain.

**Items to be Addressed:** None

## SITE ARRANGEMENT

Neighborhood nodes are located at major intersections adjacent to residential neighborhoods. These nodes are intended to serve as commercial and mixed use centers serving as places to meet the basic needs of the neighborhoods, as well as the community as a whole. The neighborhood nodes require urban building forms, which are predicated on buildings placed on

the street, and the incorporation of architectural details, most notably ground floor story activation.

While the applicant appears to have met the 10' build to line along Crooks Road, there are other site layout comments, specifically stormwater layout, noted below that should be considered by the Planning Commission in their review.

**Items to be Addressed:** *See comments below.*

**STORMWATER**

The applicant is providing a detention pond along the south property line. Due to the proposed detention pond slopes, the applicant is required to provide a 6-foot high black chain link fence. The site does not utilize any stormwater best management practices and a large detention pond with a fence around it is contrary to the vision and intent of the neighborhood nodes. The fence functions as a visual and functional barrier in the node, and makes it difficult to maintain plant material in small, shaded space.

The stormwater detention facility as proposed prevents future connection to the property to the south when that parcel develops. The applicant should reconfigure the stormwater detention facility to permit future cross-access to the property to the south.

**Items to be Addressed:** *The applicant shall utilize stormwater best management to eliminate the need for the traditional detention pond; or at a minimum to reduce the size of the detention pond to eliminate the need for the fence and be able to reconfigure to allow for cross-access.*

**AREA, WIDTH, HEIGHT, SETBACKS**

Required and Provided Dimensions:

The site is being developed as Building Form A, which is a permitted building form for Site Type B. Table 5.03.B1 establishes the dimensional requirements for the building form A:

	Required	Provided*	Compliance
Front (Crooks)	10 foot build-to-line	13 feet; applicant is proposing a 8-foot wide sidewalk and area with 5-foot allowance building landscape area	Compiles with Planning Commission approval
Rear	30 feet	95 feet	Complies
Side	NA	5 feet	Complies
Open Space	30 percent	44 percent	Complies
Building Height	Minimum 14 feet	Exceeds 17.5 feet	Complies

	Maximum 45 feet		
Parking	Not located in front yard + screening	Not located in front yard and screened	Complies

*\*Please note that measurements were based of my scaling of the plans. For resubmittal, we recommend that the applicant resubmit a site plan with dimensional figures provided and topographic and utility lines removed, as those lines make the site plan difficult to read.*

**Items to be Addressed:** Provide revised site plan

**SITE ACCESS AND CIRCULATION**

Vehicular access and Circulation:

The site will be accessed of one curb cut off and a second point of access from a shared access with the adjacent 7-Eleven to the north. In regards to future cross-access to the southern property, the applicant has prevented this with the proposed location of the detention facility. See stormwater section for more details on detention facility. As set forth in 13.08, where deemed necessary, cross-access shall be provided to provide a direct connection with the existing or future access of the abutting non-residential properties. The applicant should reconfigure the stormwater detention facility to permit future cross-access to the property to the south. A cross-access easement to the south will allow future connection when that parcel develops in the future. Engineering department notes that the concrete approach to Crooks Road needs to be 30 feet wide and have 30 feet radii.

Pedestrian access:

The applicant is providing an 8-foot sidewalk along Crooks Road along the frontage of their building. This 8-foot sidewalk must carried to the south the entire length of the site. Internal pedestrian circulation is sufficient.

**Items to be Addressed:** 1). Reconfigure detention area to permit future cross-access to the south; 2). Provide cross-access easements to the north and south properties; 3). Extend the 8-foot sidewalk along Crooks Road along the entire length of the site; and 4; Widen the concrete approach to Crooks Road 30 feet wide and have a 30 feet radii.

**PARKING**

Section 13.06.G of the Zoning Ordinance requires:

	Required	Provided
Medical Office (1 space per 200 square feet of gross feet area)	9,600 sq.ft / 200 = 48 spaces	48 spaces
Barrier Free	4	4
Bicycle Parking	2	2
<b>Total</b>	<b>48 automobile + 2 bicycle</b>	<b>48 automobile + 0 bicycle</b>

The applicant has not provided the required bicycle parking.

**Items to be Addressed:** Provide the required bicycle parking.

**LANDSCAPING**

The applicant has provided a landscape plan.

	Required:	Provided:	Compliance:
<u>Street Trees:</u> The Ordinance requires that the greenbelt shall be landscaped with a minimum of one (1) deciduous tree for every thirty (30) lineal feet, or fraction thereof, of frontage abutting a public road right-of-way.	Crooks: 8 street trees	Crooks: 0	The applicant notes that they are not able to plant required number of street trees along Crooks due to both buried and overhead utility lines.
<u>Site landscaping:</u> A minimum of twenty percent (15%) of the site area shall be comprised of landscape material.	15%	Exceeds 15% requirement	Compliant
<u>Parking Lot Landscaping:</u> 1 tree for every 8 parking spaces. Trees may be located adjacent to parking lot with planning commission approval.	6 trees	6 trees	We note that all street trees are located along the periphery of the parking lot. We recommend that the row of 13 spaces along the southern parking lot and the 17 spaces along the eastern parking lot each be broken up with a landscape peninsula.
<u>Building Planting</u>	Pedestrian amenity		Plan shows shrubs/perennials along the Crook building elevation. The applicant is encouraged to consider more creative planting/hardscape in this area.
<u>Parking lot screening</u>	Parking lots in neighborhood nodes must be screened	Applicant proposes a combination of 30-inch	Wall details have not been provided.

	with wall and/or landscaping	masonry screen wall and landscaping	
<u>Screening Between Land Uses:</u> 80% opacity	80% opacity with one of three options	Alternative 3: mix of large and narrow evergreen trees	Compliant
<u>Detention:</u> landscape with natural plantings and replicate a natural design and appearance	Stormwater management systems that replicate a natural design and appearance shall be encouraged.	Seeded	See stormwater section.
<u>Trash Enclosure Screening</u> Screened on all sides with a wall, and gate at least as high as the container, but no less than six (6) feet in height, and shall be constructed of durable material and construction which is compatible with the architectural materials used in the site development.		No trash enclosure shown on site plan or details provided on plans	Not compliant

**Items to be Addressed:** 1). Break up thirteen (13) spaces along the southern parking lot and the seventeen (17) spaces along the eastern parking lot with a landscape peninsula; 2). Consider more creative planting/hardscape between the building and Crooks Road; 3). Provide details of parking lot wall screening; and 4). Provide trash enclosure locations on site plan and trash enclosure details.

**PHOTOMETRICS**

The applicant has provided a lighting (photometric) plan. The applicant proposes four (4) pole parking lot lights. The applicant has not provided building lighting but they should confirm that building light fixtures are full cut-off fixture or a fully shielded fixture.

All photometrics meet ordinance requirements.

**Items to be Addressed:** Confirm that building light fixture is a full cut-off fixture or a fully shielded fixture.

## FLOOR PLANS AND ELEVATIONS

The applicant has provided floor plans and elevations. The proposed projections on the west elevation do not appear on the north and south elevations. To better understand context and architectural design, the applicant for resubmittal should submit either a 3D model or colored rendering.

**Items to be Addressed:** *Provide a 3D model or colored rendering for resubmittal.*

## DESIGN STANDARDS

Developments within neighborhood nodes must comply with Design Standards outlined in section 5.06.E.

### Building Orientation and Entrance

- a. *Primary Entrance: The primary building entrance shall be clearly identifiable and useable and located in the front façade parallel to the street. **Complies***
- b. *Recessed Doorways. Where the building entrance is located on or within five (5) feet of a lot line, doorways shall be recessed into the face of the building. **Not applicable***
- c. *Residential Dwellings. Entrances for all residential dwellings shall be clearly defined by at least one (1) of the following:*
  - I. *Projecting or recessed entrance. A recessed entrance is required if the building entrance is located on or within five (5) feet of the lot line.*
  - II. *Stoop or enclosed or covered porch.*
  - III. *Transom and/or side light window panels framing the door opening.*
  - IV. *Architectural trim or unique color treatments framing the door opening*

**Not Applicable**

### Ground Story Activation

- a. *The first floor of any front façade facing a right-of-way shall be no less than fifty (50) percent windows and doors, and the minimum transparency for facades facing a side street, side yard, or parking area shall be no less than 30 percent of the façade. Transparency alternatives are permitted up to 80% of the 50% total along the front of buildings, and up to 100% of the sides of buildings. The minimum transparency requirement shall apply to all sides of a building that abut an open space, including a side yard, or public right-of-way. Transparency requirements shall not apply to sides which abut an alley.*

**The applicant proposes a mix of storefront glass, sills, awnings, and soldier courses, to comply with this requirement. Through the use of windows the applicant complies with this standard. We've asked the applicant to provide either a 3D model or at least colored rendering to better understand context and architectural design.**

**Through the building permit process, the building department will review the detailed floor plans to ensure that transparency is met.**

### Transitional Features

- a. *Transitional features are architectural elements, site features, or alterations to building massing that are used to provide a transition between higher intensity uses and low- or moderate-density residential areas. These features assist in mitigating potential conflicts between those uses. Transitional features are intended to be used in combination with landscape buffers or large setbacks.*

**Through the use of setbacks, and landscaping, the applicant has met this requirement.**

### Site Access and Parking

- a. *Required Parking. Off-street parking shall be provided in accordance with the standards set forth in Article 13, Site Design Standards.*

**The applicant has provided the necessary parking.**

- b. *Location.*
  - I. *When parking is located in a side yard (behind the front building line) but fronts on the required building line, no more than fifty (50) percent of the total site's linear feet along the required building line or one hundred (100) feet, whichever is less, shall be occupied by parking.*

#### **Complies**

- II. *For a corner lot, shall be no more than fifty (50) percent of the site's cumulative linear feet along the required building lines or one hundred (100) feet, whichever is less, shall be occupied by parking. The building shall be located in the corner of the lot adjacent to the intersection.*

#### **Not Applicable**

- III. For a double frontage lot or a lot that has frontage on three (3) streets, the cumulative total of all frontages occupied by parking shall be no more than sixty-five (65) percent of the total site's linear feet along a required building line or one hundred and twenty-five (125) feet, whichever is less.

**Not Applicable**

- IV. Where off-street parking is visible from a street, it should be screened in accordance with the standards set forth in Section 13.02.C.

**The applicant has screened their parking lot in compliance with section 13.0.2.C.**

**Items to be Addressed:** Provide a 3D model or colored rendering

**RECOMMENDATION**

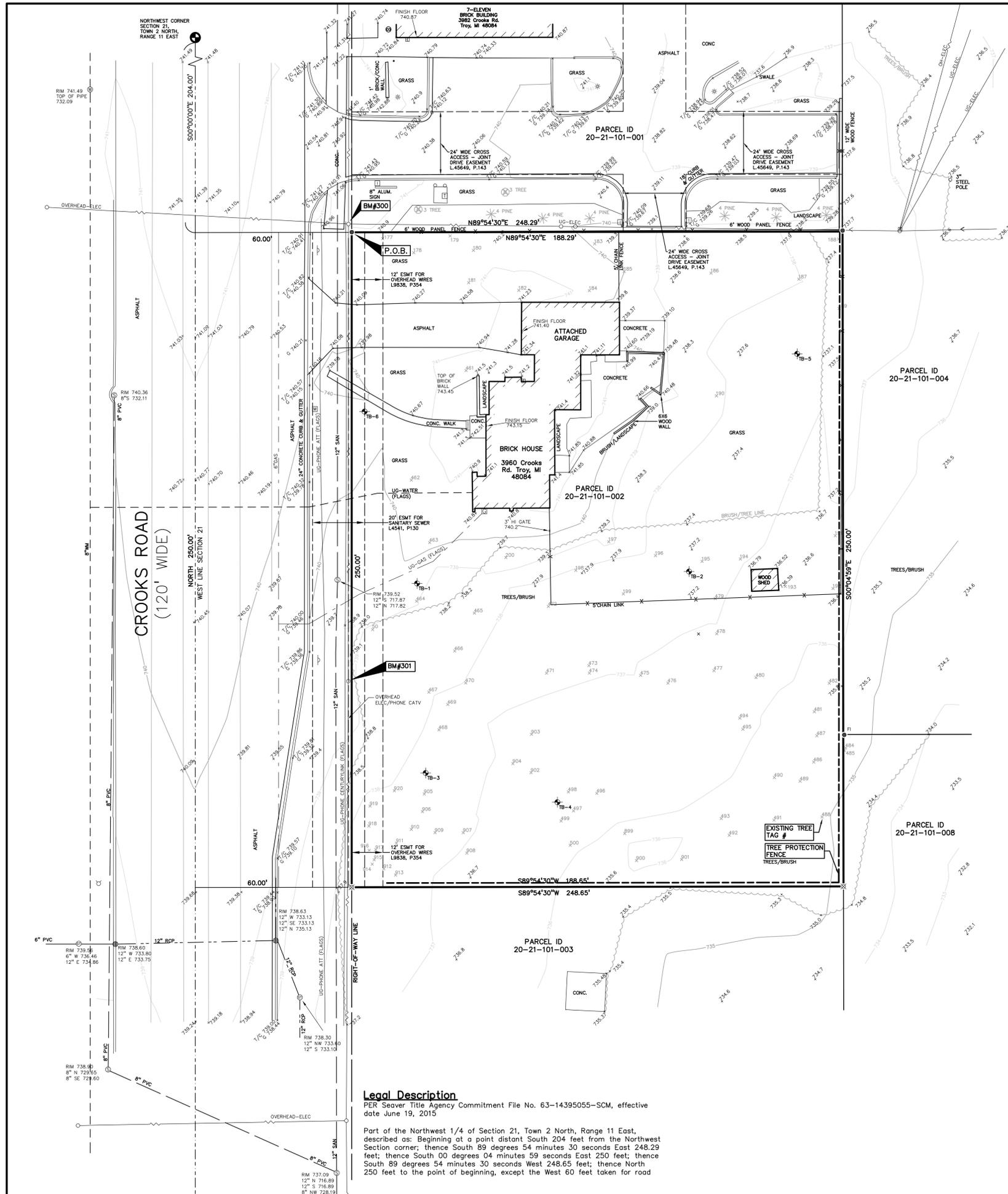
The following items should be addressed by the applicant prior to site plan approval:

1. The applicant shall utilize stormwater best management to eliminate the need for the traditional detention pond; or at a minimum to reduce the size of the detention pond to eliminate the need for the fence and be able to reconfigure to allow for cross-access.
2. Resubmit the site plan with dimensional figures provided and topographic and utility lines removed.
3. Provide cross-access easements to the north and south properties.
4. Extend the 8-foot sidewalk along Crooks Road along the entire length of the site.
5. Widen the concrete approach to Crooks Road 30 feet wide and have a 30 feet radii.
6. Provide the required bicycle parking.
7. Break up thirteen (13) spaces along the southern parking lot and the seventeen (17) spaces along the eastern parking lot with a landscape peninsula.
8. Consider more creative planting/hardscape between the building and Crooks Road.
9. Provide details of parking lot wall screening.
10. Provide trash enclosure locations on site plan and trash enclosure details.
11. Confirm that building light fixture is a full cut-off fixture or a fully shielded fixture.
12. Provide 3D model or colored rendering for resubmittal.



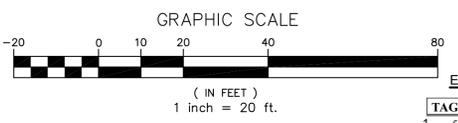
CARLISLE/WORTMAN ASSOC., INC.  
Benjamin R. Carlisle, LEED AP, AICP





**BENCHMARKS**  
(GPS DERIVED - NAVD88 DATUM)  
**BM#300**  
 SET BENCH TIE IN SOUTH FACE POWER POLE ±200 FEET SOUTH OF CENTERLINE OF W. WATTLES RD. ±15 FEET EAST OF BACK OF CURB OF CROOKS RD.  
 ELEVATION - 742.48  
**BM#301**  
 SET BENCH TIE IN NORTHFACE POWERPOLE ±370 FEET SOUTH OF CENTERLINE OF W. WATTLES RD. ±18 FEET EAST OF BACK OF CURB OF CROOKS RD.  
 ELEVATION - 740.53

**FLOOD NOTE:**  
 BY GRAPHICAL PLOTTING THE SUBJECT PARCEL LIES WITHIN "AREAS DETERMINED TO BE OUTSIDE OF THE 0.2% ANNUAL CHANCE FLOODPLAIN" (ZONE X) PER FEMA FLOOD INSURANCE RATE MAP  
 PANEL NUMBER: 26125C0353F  
 EFFECTIVE DATE: SEPTEMBER 29, 2006



- EXISTING TREE LIST:**
- | TAG NO. | CODE | DBH | COMMON NAME       | LATIN NAME           | COND                 | COMMENT |    |
|---------|------|-----|-------------------|----------------------|----------------------|---------|----|
| 1       | 50   | BS  | 11                | Blue Spruce          | Picea pungens        | POOR    |    |
| 177     | SC   | 11  | Scotch Pine       | Pinus sylvestris     | POOR                 |         |    |
| 178     | NS   | 13  | Norway Spruce     | Picea abies          | GOOD                 |         |    |
| 179     | NS   | 9   | Norway Spruce     | Picea abies          | POOR                 |         |    |
| 180     | BS   | 15  | Blue Spruce       | Picea pungens        | FAIR                 |         |    |
| 181     | BS   | 12  | Blue Spruce       | Picea pungens        | FAIR                 |         |    |
| 182     | BS   | 15  | Blue Spruce       | Picea pungens        | GOOD                 |         |    |
| 183     | SC   | 11  | Scotch Pine       | Pinus sylvestris     | POOR                 | X2      |    |
| 184     | NS   | 22  | Norway Spruce     | Picea abies          | GOOD                 |         |    |
| 185     | NS   | 13  | Norway Spruce     | Picea abies          | GOOD                 |         |    |
| 186     | SM   | 27  | Silver Maple      | Acer saccharinum     | POOR                 |         |    |
| 187     | AP   | 12  | Domestic Apple    | Malus sylvestris     | POOR                 | X2      |    |
| 188     | BC   | 6   | Wild Black Cherry | Prunus serotina      | GOOD                 |         |    |
| 189     | E    | 10  | American Elm      | Ulmus americana      | FAIR                 |         |    |
| 190     | RO   | 20  | Red Oak           | Quercus rubra        | GOOD                 | X2      |    |
| 191     | NS   | 13  | Norway Spruce     | Picea abies          | GOOD                 |         |    |
| 192     | NS   | 15  | Norway Spruce     | Picea abies          | FAIR                 |         |    |
| 193     | BX   | 6   | Box elder         | Acer negundo         | FAIR                 |         |    |
| 194     | NM   | 14  | Norway Maple      | Acer platanoides     | GOOD                 |         |    |
| 195     | BX   | 8   | Box elder         | Acer negundo         | FAIR                 |         |    |
| 196     | NM   | 15  | Norway Maple      | Acer platanoides     | GOOD                 |         |    |
| 197     | NS   | 23  | Norway Spruce     | Picea abies          | GOOD                 |         |    |
| 198     | NS   | 15  | Norway Spruce     | Picea abies          | POOR                 |         |    |
| 199     | BX   | 8   | Box elder         | Acer negundo         | GOOD                 |         |    |
| 200     | NM   | 19  | Norway Maple      | Acer platanoides     | GOOD                 |         |    |
| 461     | E    | 7   | American Elm      | Ulmus americana      | GOOD                 |         |    |
| 462     | NM   | 22  | Norway Maple      | Acer platanoides     | GOOD                 |         |    |
| 463     | SM   | 27  | Silver Maple      | Acer saccharinum     | GOOD                 |         |    |
| 464     | BX   | 29  | Box elder         | Acer negundo         | POOR                 |         |    |
| 465     | SM   | 16  | Silver Maple      | Acer saccharinum     | GOOD                 |         |    |
| 466     | E    | 21  | American Elm      | Ulmus americana      | GOOD                 |         |    |
| 467     | BX   | 9   | Box elder         | Acer negundo         | FAIR                 |         |    |
| 468     | E    | 7   | American Elm      | Ulmus americana      | FAIR                 |         |    |
| 469     | E    | 6   | American Elm      | Ulmus americana      | GOOD                 |         |    |
| 470     | NM   | 8   | Norway Maple      | Acer platanoides     | GOOD                 |         |    |
| 471     | BW   | 6   | Black Walnut      | Juglans nigra        | GOOD                 |         |    |
| 472     | NM   | 7   | Norway Maple      | Acer platanoides     | GOOD                 |         |    |
| 473     | BX   | 6   | Box elder         | Acer negundo         | POOR                 |         |    |
| 474     | BX   | 11  | Box elder         | Acer negundo         | FAIR                 |         |    |
| 475     | SM   | 8   | Silver Maple      | Acer saccharinum     | GOOD                 |         |    |
| 476     | BX   | 6   | Box elder         | Acer negundo         | FAIR                 |         |    |
| 477     | BX   | 15  | Box elder         | Acer negundo         | FAIR                 |         |    |
| 478     | NS   | 10  | Norway Spruce     | Picea abies          | POOR                 |         |    |
| 479     | NM   | 8   | Norway Maple      | Acer platanoides     | GOOD                 |         |    |
| 480     | PN   | 8   | Pin Cherry        | Prunus pennsylvanica | POOR                 | X2      |    |
| 481     | PN   | 8   | Pin Cherry        | Prunus pennsylvanica | POOR                 |         |    |
| 482     | PN   | 6   | Pin Cherry        | Prunus pennsylvanica | POOR                 |         |    |
| 483     | NS   | 9   | Norway Spruce     | Picea abies          | POOR                 |         |    |
| 484     | PN   | 7   | Pin Cherry        | Prunus pennsylvanica | POOR                 |         |    |
| 485     | PN   | 7   | Pin Cherry        | Prunus pennsylvanica | POOR                 |         |    |
| 486     | PN   | 5   | Pin Cherry        | Prunus pennsylvanica | POOR                 |         |    |
| 487     | PN   | 7   | Pin Cherry        | Prunus pennsylvanica | POOR                 |         |    |
| 488     | PN   | 5   | Pin Cherry        | Prunus pennsylvanica | POOR                 |         |    |
| 489     | PN   | 6   | Pin Cherry        | Prunus pennsylvanica | POOR                 |         |    |
| 490     | PN   | 6   | Pin Cherry        | Prunus pennsylvanica | POOR                 |         |    |
| 491     | PN   | 5   | Pin Cherry        | Prunus pennsylvanica | POOR                 |         |    |
| 492     | PN   | 6   | Pin Cherry        | Prunus pennsylvanica | POOR                 |         |    |
| 493     | PN   | 7   | Pin Cherry        | Prunus pennsylvanica | POOR                 |         |    |
| 494     | PN   | 6   | Pin Cherry        | Prunus pennsylvanica | POOR                 |         |    |
| 495     | PN   | 6   | Pin Cherry        | Prunus pennsylvanica | POOR                 |         |    |
| 496     | BX   | 6   | Box elder         | Acer negundo         | FAIR                 |         |    |
| 497     | CH   | 7   | Domestic Cherry   | Prunus avium         | GOOD                 |         |    |
| 498     | CH   | 8   | Domestic Cherry   | Prunus avium         | GOOD                 |         |    |
| 499     | SM   | 23  | Silver Maple      | Acer saccharinum     | GOOD                 |         |    |
| 500     | E    | 9   | American Elm      | Ulmus americana      | GOOD                 |         |    |
| 899     | SC   | 10  | Scotch Pine       | Pinus sylvestris     | POOR                 |         |    |
| 900     | PN   | 6   | Pin Cherry        | Prunus pennsylvanica | FAIR                 |         |    |
| 901     | NS   | 13  | Norway Spruce     | Picea abies          | FAIR                 |         |    |
| 902     | CH   | 11  | Domestic Cherry   | Prunus avium         | POOR                 |         |    |
| 903     | CH   | 5   | Domestic Cherry   | Prunus avium         | GOOD                 |         |    |
| 904     | CH   | 9   | Domestic Cherry   | Prunus avium         | FAIR                 |         |    |
| 905     | BX   | 7   | Box elder         | Acer negundo         | POOR                 |         |    |
| 906     | SC   | 13  | Scotch Pine       | Pinus sylvestris     | POOR                 |         |    |
| 907     | SC   | 10  | Scotch Pine       | Pinus sylvestris     | POOR                 |         |    |
| 908     | E    | 6   | American Elm      | Ulmus americana      | GOOD                 |         |    |
| 909     | SC   | 10  | Scotch Pine       | Pinus sylvestris     | POOR                 |         |    |
| 910     | SC   | 10  | Scotch Pine       | Pinus sylvestris     | POOR                 |         |    |
| 911     | SC   | 10  | Scotch Pine       | Pinus sylvestris     | POOR                 |         |    |
| 912     | E    | 5   | American Elm      | Ulmus americana      | GOOD                 |         |    |
| 913     | PN   | 4   | Pin Cherry        | Prunus pennsylvanica | FAIR                 |         |    |
| 914     | MR   | 5   | Red Mulberry      | Morus rubra          | GOOD                 |         |    |
| 915     | EE   | 9   | Siberian Elm      | Ulmus pumila         | FAIR                 |         |    |
| 916     | E    | 9   | American Elm      | Ulmus americana      | POOR                 |         |    |
| 917     | E    | 7   | American Elm      | Ulmus americana      | POOR                 |         |    |
| 918     | CH   | 5   | Domestic Cherry   | Prunus avium         | FAIR                 |         |    |
| 919     | E    | 7   | American Elm      | Ulmus americana      | POOR                 |         |    |
| 87      | 920  | PN  | 5                 | Pin Cherry           | Prunus pennsylvanica | FAIR    | X4 |

- LEGEND**
- IRON FOUND
  - ⊗ IRON SET
  - ⊗ NAIL FOUND
  - ⊗ NAIL & CAP SET
  - ⊗ BRASS PLUG SET
  - ⊗ MONUMENT FOUND
  - ⊗ MONUMENT SET
  - ⊗ SEC. CORNER FOUND
  - ⊗ RECORDED
  - ⊗ MEASURED
  - ⊗ CALCULATED
- EXISTING**
- OH-ELEC—W—O— ELEC. PHONE OR CABLE TV O.H. LINE, POLE & GUY WIRE
  - UG-CATV— UG. CABLE TV, CATV PEDESTAL
  - UG-UG-PHONE— UG. PHONE, CABLE, PEDESTAL & MANHOLE
  - UG-ELEC—ELEC. U.G. CABLE, MANHOLE, METER & HANDHOLE
  - UG-GAS— GAS MAIN, VALVE & GAS LINE MARKER
  - WATERSHED, HYD. GATE VALVE, TAPPING SLEEVE & VALVE
  - SANITARY SEWER, CLEANOUT & MANHOLE
  - STORM SEWER, CLEANOUT & MANHOLE
  - COMBINED SEWER & MANHOLE
  - CATCH BASIN, INLET, YARD DRAIN
  - POST INDICATOR VALVE
  - WATER MAIN BOX/SHRANT VALVE BOX, SERVICE SHUTOFF
  - MAILBOX, TRANSFORMER, IRRIGATION CONTROL VALVE
  - UNIDENTIFIED STRUCTURE
  - SPOT ELEVATION
  - CONTOUR LINE
  - FENCE
  - GUARD RAIL
  - STREET LIGHT
  - SIGN
  - TREE LOCATION
- REFERENCE DRAWINGS**
- WATER MAIN CITY OF TROY GIS
  - SANITARY SEWER CITY OF TROY GIS
  - STORM SEWER CITY OF TROY GIS
  - ELECTRIC CITY ENERGY MAP
  - TELEPHONE AT&T MAP
  - GAS CONSUMERS POWER MAP
  - CATV NOT RECEIVED
- TREE PROTECTION FENCE
- x 400 = EXISTING TREE TAG NUMBER

TREE PROTECTION WILL BE ERRECTED PRIOR TO START OF CONSTRUCTION ACTIVITIES AND SHALL REMAIN IN PLACE UNTIL CONSTRUCTION IS COMPLETE.

NO PERSON MAY CONDUCT ANY ACTIVITY WITHIN THE DRIP LINE OF ANY TREE DESIGNATED TO REMAIN INCLUDING, BUT NOT LIMITED TO PLACING SOLVENTS, BUILDING MATERIAL, CONSTRUCTION EQUIPMENT OR SOIL DEPOSITS WITHIN DRIP LINES.

GRADE CHANGES MAY NOT OCCUR WITHIN THE DRIP LINE OF PROTECTED TREES.

DURING CONSTRUCTION, NO PERSON SHALL ATTACH ANY DEVICE OR WIRE TO ANY REMAINING TREE.

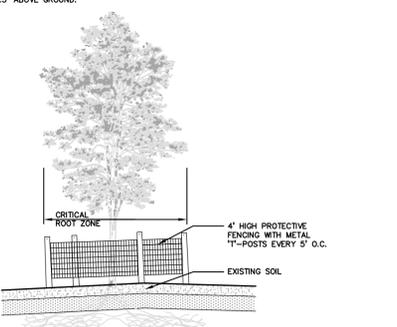
ALL UTILITY SERVICE REQUESTS MUST INCLUDE NOTIFICATION TO THE INSTALLER THAT PROTECTED TREES MUST BE AVOIDED. ALL TRENCHING SHALL OCCUR OUTSIDE OF THE PROTECTIVE FENCING.

TREES LOCATED ON ADJACENT PROPERTY THAT MAY BE AFFECTED BY CONSTRUCTION ACTIVITIES MUST BE PROTECTED.

TREES TO BE PRESERVED SHALL BE IDENTIFIED WITH FLAGGING PRIOR TO THE TREE CLEARING OPERATIONS.

PROVIDE FENCE AROUND CRITICAL ROOT ZONE OF TREE.

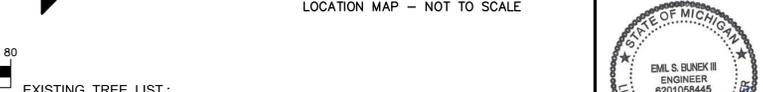
FENCE SHALL BE PLACED IN A CIRCLE WITH A RADIUS OF 1" PER 1" DIAMETER OF THE TREE MEASURED AT 4.5' ABOVE GROUND.



**TREE PROTECTION DETAIL**  
NOT TO SCALE

LONG LAKE RD.					
W. WATTLES RD.					
COOLIDGE HWY.					
CROOKS RD.					
I-75 HWY.					
LIVERNOIS RD.					

LOCATION MAP - NOT TO SCALE



TAG NO.	CODE	DBH	COMMON NAME	LATIN NAME	COND	COMMENT	
1	50	BS	11	Blue Spruce	Picea pungens	POOR	
177	SC	11	Scotch Pine	Pinus sylvestris	POOR		
178	NS	13	Norway Spruce	Picea abies	GOOD		
179	NS	9	Norway Spruce	Picea abies	POOR		
180	BS	15	Blue Spruce	Picea pungens	FAIR		
181	BS	12	Blue Spruce	Picea pungens	FAIR		
182	BS	15	Blue Spruce	Picea pungens	GOOD		
183	SC	11	Scotch Pine	Pinus sylvestris	POOR	X2	
184	NS	22	Norway Spruce	Picea abies	GOOD		
185	NS	13	Norway Spruce	Picea abies	GOOD		
186	SM	27	Silver Maple	Acer saccharinum	POOR		
187	AP	12	Domestic Apple	Malus sylvestris	POOR	X2	
188	BC	6	Wild Black Cherry	Prunus serotina	GOOD		
189	E	10	American Elm	Ulmus americana	FAIR		
190	RO	20	Red Oak	Quercus rubra	GOOD	X2	
191	NS	13	Norway Spruce	Picea abies	GOOD		
192	NS	15	Norway Spruce	Picea abies	FAIR		
193	BX	6	Box elder	Acer negundo	FAIR		
194	NM	14	Norway Maple	Acer platanoides	GOOD		
195	BX	8	Box elder	Acer negundo	FAIR		
196	NM	15	Norway Maple	Acer platanoides	GOOD		
197	NS	23	Norway Spruce	Picea abies	GOOD		
198	NS	15	Norway Spruce	Picea abies	POOR		
199	BX	8	Box elder	Acer negundo	GOOD		
200	NM	19	Norway Maple	Acer platanoides	GOOD		
461	E	7	American Elm	Ulmus americana	GOOD		
462	NM	22	Norway Maple	Acer platanoides	GOOD		
463	SM	27	Silver Maple	Acer saccharinum	GOOD		
464	BX	29	Box elder	Acer negundo	POOR		
465	SM	16	Silver Maple	Acer saccharinum	GOOD		
466	E	21	American Elm	Ulmus americana	GOOD		
467	BX	9	Box elder	Acer negundo	FAIR		
468	E	7	American Elm	Ulmus americana	FAIR		
469	E	6	American Elm	Ulmus americana	GOOD		
470	NM	8	Norway Maple	Acer platanoides	GOOD		
471	BW	6	Black Walnut	Juglans nigra	GOOD		
472	NM	7	Norway Maple	Acer platanoides	GOOD		
473	BX	6	Box elder	Acer negundo	POOR		
474	BX	11	Box elder	Acer negundo	FAIR		
475	SM	8	Silver Maple	Acer saccharinum	GOOD		
476	BX	6	Box elder	Acer negundo	FAIR		
477	BX	15	Box elder	Acer negundo	FAIR		
478	NS	10	Norway Spruce	Picea abies	POOR		
479	NM	8	Norway Maple	Acer platanoides	GOOD		
480	PN	8	Pin Cherry	Prunus pennsylvanica	POOR	X2	
481	PN	8	Pin Cherry	Prunus pennsylvanica	POOR		
482	PN	6	Pin Cherry	Prunus pennsylvanica	POOR		
483	NS	9	Norway Spruce	Picea abies	POOR		
484	PN	7	Pin Cherry	Prunus pennsylvanica	POOR		
485	PN	7	Pin Cherry	Prunus pennsylvanica	POOR		
486	PN	5	Pin Cherry	Prunus pennsylvanica	POOR		
487	PN	7	Pin Cherry	Prunus pennsylvanica	POOR		
488	PN	5	Pin Cherry	Prunus pennsylvanica	POOR		
489	PN	6	Pin Cherry	Prunus pennsylvanica	POOR		
490	PN	6	Pin Cherry	Prunus pennsylvanica	POOR		
491	PN	5	Pin Cherry	Prunus pennsylvanica	POOR		
492	PN	6	Pin Cherry	Prunus pennsylvanica	POOR		
493	PN	7	Pin Cherry	Prunus pennsylvanica	POOR		
494	PN	6	Pin Cherry	Prunus pennsylvanica	POOR		
495	PN	6	Pin Cherry	Prunus pennsylvanica	POOR		
496	BX	6	Box elder	Acer negundo	FAIR		
497	CH	7	Domestic Cherry	Prunus avium	GOOD		
498	CH	8	Domestic Cherry	Prunus avium	GOOD		
499	SM	23	Silver Maple	Acer saccharinum	GOOD		
500	E	9	American Elm	Ulmus americana	GOOD		
899	SC	10	Scotch Pine	Pinus sylvestris	POOR		
900	PN	6	Pin Cherry	Prunus pennsylvanica	FAIR		
901	NS	13	Norway Spruce	Picea abies	FAIR		
902	CH	11	Domestic Cherry	Prunus avium	POOR		
903	CH	5	Domestic Cherry	Prunus avium	GOOD		
904	CH	9	Domestic Cherry	Prunus avium	FAIR		
905	BX	7	Box elder	Acer negundo	POOR		
906	SC	13	Scotch Pine	Pinus sylvestris	POOR		
907	SC	10	Scotch Pine	Pinus sylvestris	POOR		
908	E	6	American Elm	Ulmus americana	GOOD		
909	SC	10	Scotch Pine	Pinus sylvestris	POOR		
910	SC	10	Scotch Pine	Pinus sylvestris	POOR		
911	SC	10	Scotch Pine	Pinus sylvestris	POOR		
912	E	5	American Elm	Ulmus americana	GOOD		
913	PN	4	Pin Cherry	Prunus pennsylvanica	FAIR		
914	MR	5	Red Mulberry	Morus rubra	GOOD		
915	EE	9	Siberian Elm	Ulmus pumila	FAIR		
916	E	9	American Elm	Ulmus americana	POOR		
917	E	7	American Elm	Ulmus americana	POOR		
918	CH	5	Domestic Cherry	Prunus avium	FAIR		
919	E	7	American Elm	Ulmus americana	POOR		
87	920	PN	5	Pin Cherry	Prunus pennsylvanica	FAIR	X4



**CAUTION!**  
 THE LOCATION AND DEPTHS OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THIS DRAWING ARE ONLY APPROXIMATE. NO WARRANTIES ARE EXPRESSED OR IMPLIED AS TO THE COMPLETENESS OR ACCURACY THEREOF. THE CONTRACTOR SHALL BE EXCLUSIVELY RESPONSIBLE FOR DETERMINING THE EXACT UTILITY LOCATIONS AND DEPTHS PRIOR TO THE START OF CONSTRUCTION.

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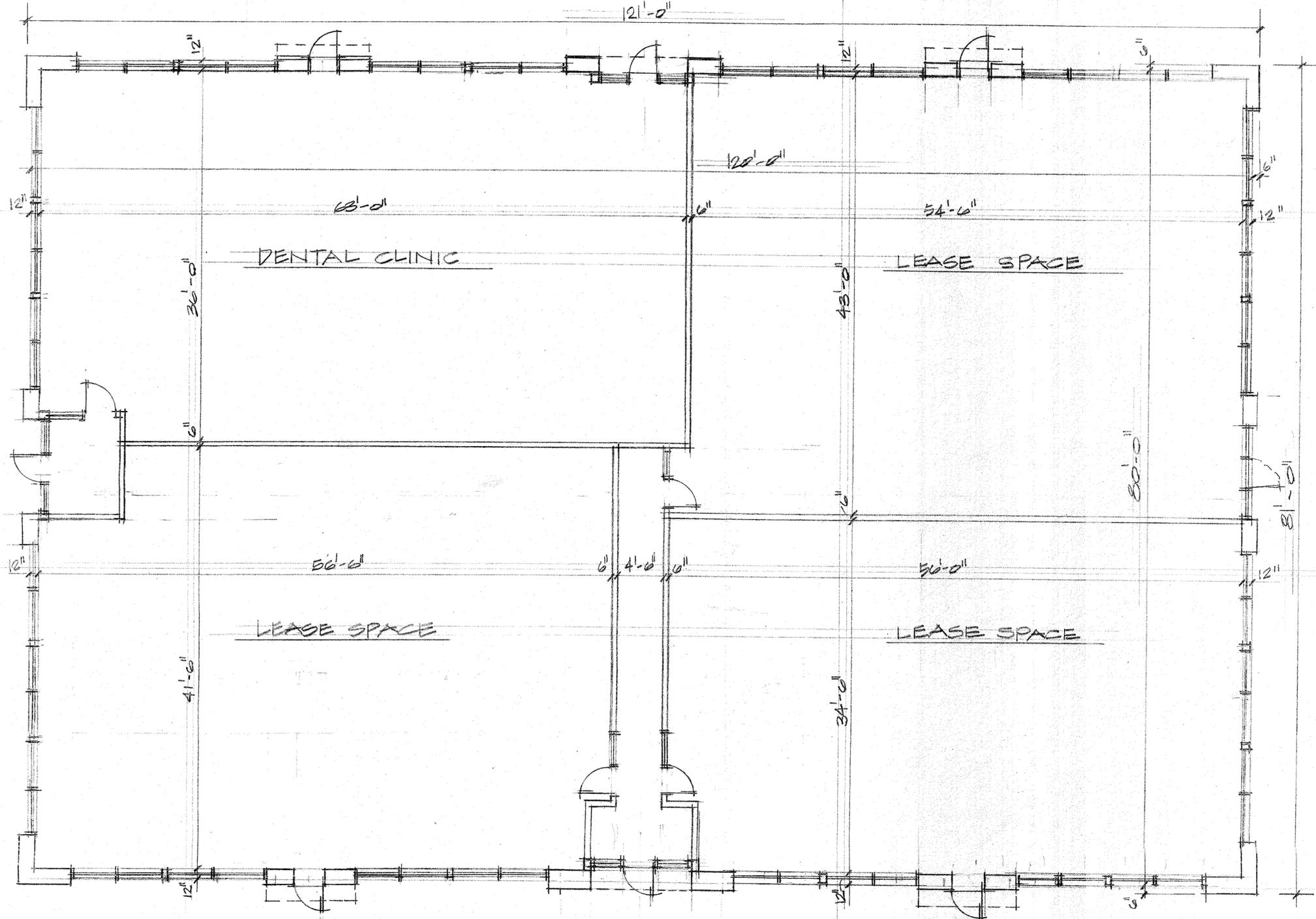
**SRB HOLDINGS, LLC**  
 3060 W. WASHINGTON HILLS, MI 48324

**TOPO. SURVEY/TREE PRESERVATION</**

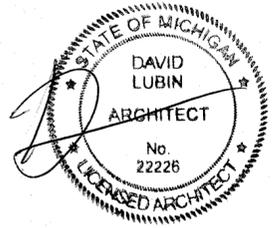


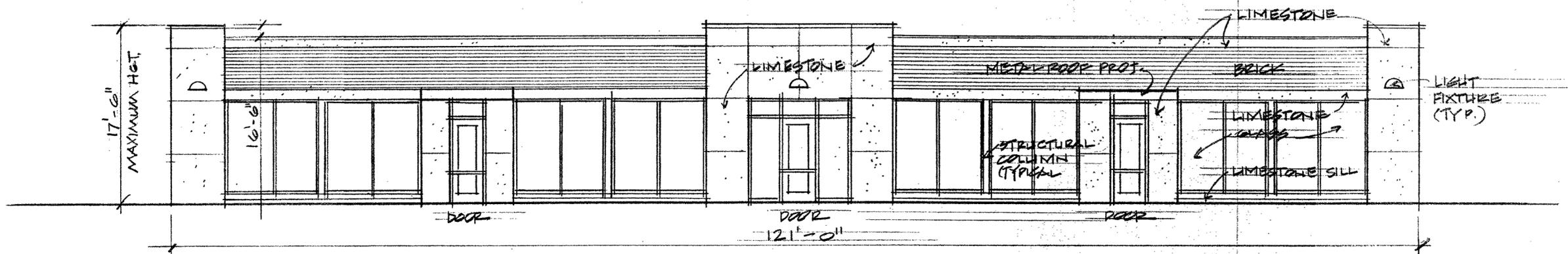






FLOOR PLAN  
 SCALE: 1/8" = 1'-0"



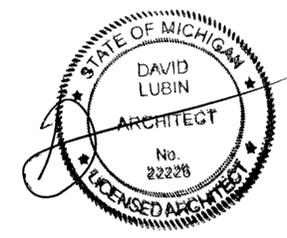


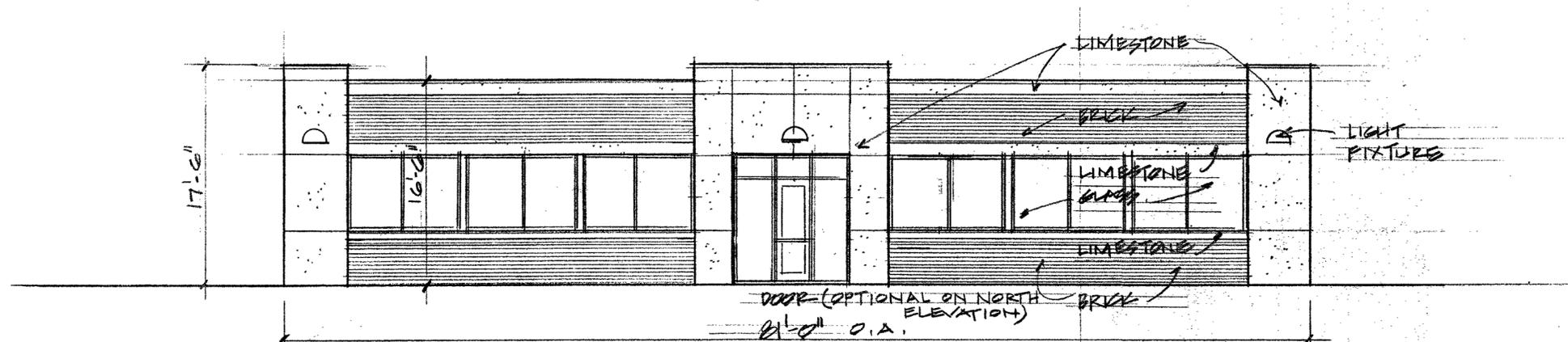
WEST ELEVATION

SCALE: 1/8" = 1'-0"

TRANSPARENCY REQUIREMENT

BUILDING FACADE AREA = 2024<sup>#</sup>  
 50% = 1012<sup>#</sup> REQUIRED  
 TRANSPARENCY ALTERNATIVE 1012<sup>#</sup> x 80% = 810<sup>#</sup>  
 TRANSPARENCY PROVIDED = 836<sup>#</sup>





NORTH & SOUTH ELEVATIONS

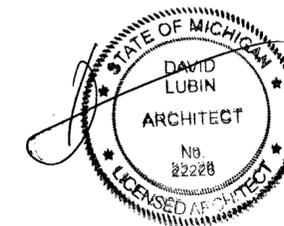
SCALE 1/8" = 1'-0"

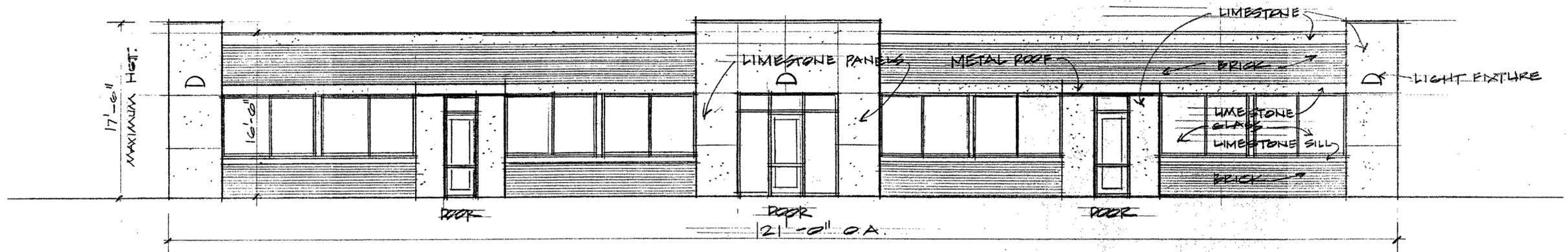
TRANSPARENCY REQ.

BUILDING FACADE AREA = 1341<sup>#</sup>

30% = 402<sup>#</sup> REQUIRED

TRANSPARENCY PROVIDED = 414<sup>#</sup>



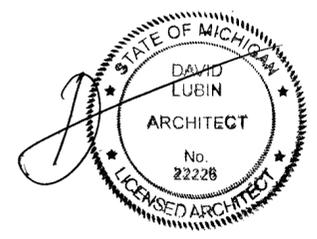


**EAST ELEVATION**

SCALE 1/8" = 1'-0"

**TRANSPARENCY REQUIREMENT**

BUILDING FACADE AREA = 2024<sup>#</sup>  
 30% = 607<sup>#</sup> REQUIRED  
 TRANSPARENCY PROVIDED = 614<sup>#</sup>





CARLISLE

WORTMAN  
associates, inc.

605 S. Main Street, Ste. 1  
Ann Arbor, MI 48104

(734) 662-2200  
(734) 662-1935 Fax

**MEMORANDUM**

**TO:** Troy Planning Commission  
R. Brent Savidant, Planning Director

**FROM:** Richard K. Carlisle  
Benjamin R. Carlisle

**DATE:** October 22, 2015

**RE:** Master Plan Update

Please find attached the 2015 Master Plan update. There was discussion at the last Planning Commission meeting about the integration of the 2015 update into the existing Master Plan. Please note that the amendment will be integrated into the existing and will NOT be an appendix attached to the existing plan.

The revised "People: Planning a Community for All Ages and Stages" will replace existing "Chapter 8: People: The Changing Face of Housing Demand". The Special Area Plans, which include Rochester Road, Maple Road, North Troy, and Big Beaver will be a new Chapter 10. Chapter 10 is intended to supplement the "Chapter 9: Land Patterns" in the existing Master Plan.

We note that while the Planning Commission has reviewed all sections in concept, we have added more updated demographic and housing data to the "Chapter 8: People" and added an introduction to "Chapter 10: Special Area Plans".

We look forward to attending the meeting on Tuesday October 27, 2015 to discuss the document in further detail.

Sincerely,

CARLISLE/WORTMAN ASSOC., INC.  
Richard K. Carlisle, PCP, AICP  
President

CARLISLE/WORTMAN ASSOC., INC.  
Benjamin R. Carlisle, AICP, LEED AP  
Senior Associate

# **The City of Troy Master Plan**

## **2015 Additions**

## **People:** **Planning a Community for All Ages and Stages**

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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 2.1, 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 2.2). 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:

FIGURE 2.1: CITY OF TROY FUTURE POPULATION  
Source: 2010 U.S. Census and 2015 SEMCOG estimates.

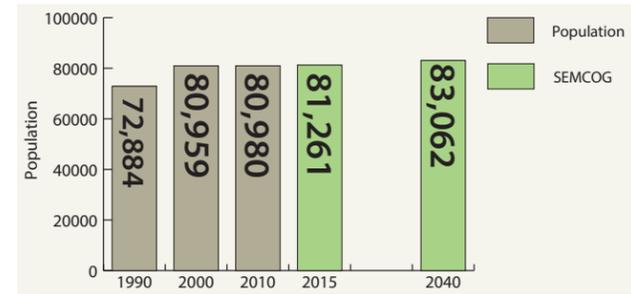
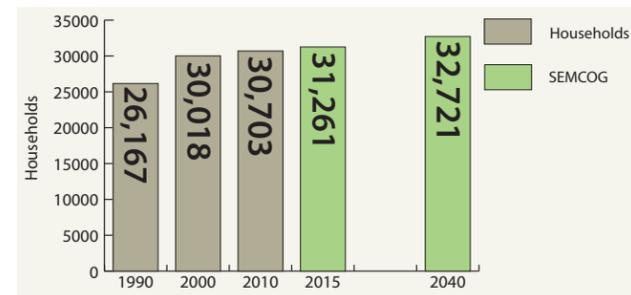


FIGURE 2.2: NUMBER OF HOUSEHOLDS  
Source: 2010 U.S. Census, SEMCOG, City of Troy



### 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*

- **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.

- **Age Composition:** Consistent with State and National trends, the population of Troy is aging. As shown in figure 2.3, 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 2.3, 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 2.4, 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.

FIGURE 2.3: POPULATION DISTRIBUTION BY AGE GROUP (2010)  
Source: SEMCOG

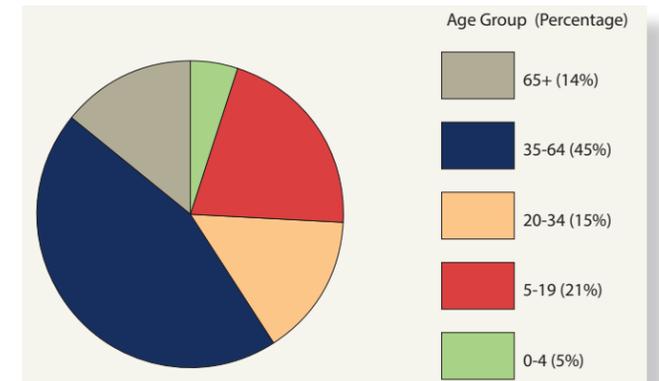
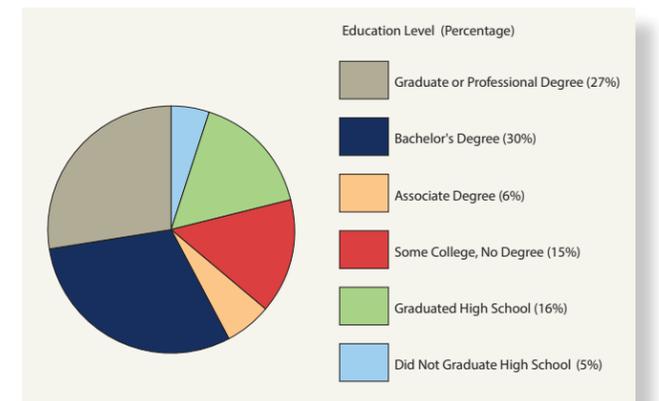


FIGURE 2.4: EDUCATIONAL ACHIEVEMENT OF RESIDENTS OVER 25 YEARS



Given what we know about the current population, and trends based on historical data, what must the City do to best respond? The next section of this Chapter will explore specific solutions to specific issues facing the City in this regard.

### Housing Options in Troy

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.

#### 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.*

### Housing an Aging Population

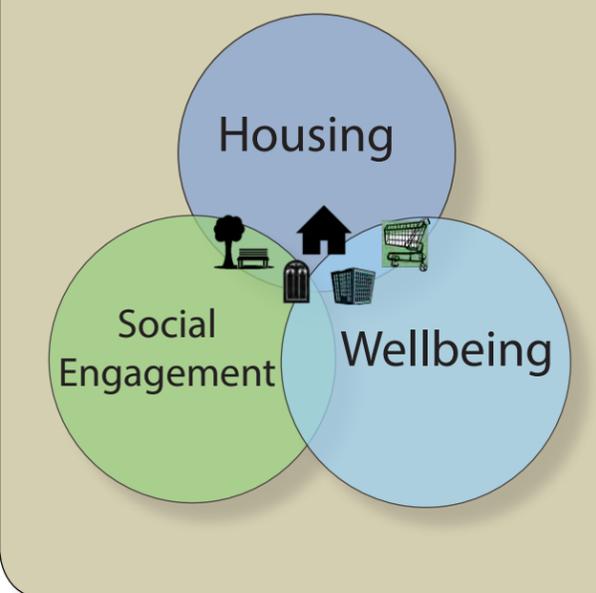
The next generation of older adults is one with a new perspective on aging; one that includes being physically active, staying close to family and friends, moving into a new second career, pursuing education, or accomplishing a lifelong dream. Given the expected shift in the City of Troy’s population, 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.

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.

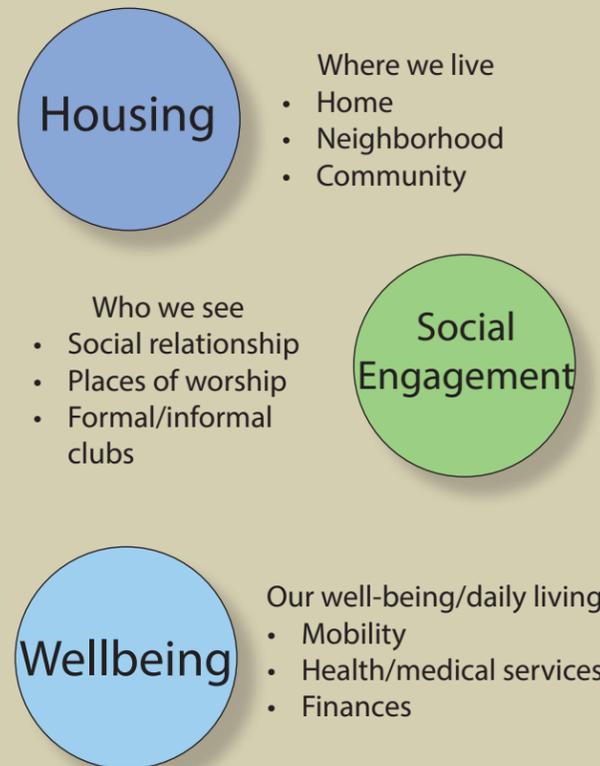
Promoting an **Aging in Places** strategy will more fully address the full complement of the needs of an aging population. While Aging in Place is the preference of the vast majority of seniors, there can be limitations in fulfilling every need. Active seniors are looking for a rich social environment, 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.

When Places are created, an integrated picture looks like this



#### Creating an Aging in Places Framework for Troy

• *Aging in Places has three spheres:*



“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

### 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/visitability>)*

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 single family homes nor in traditional multiple family apartments.

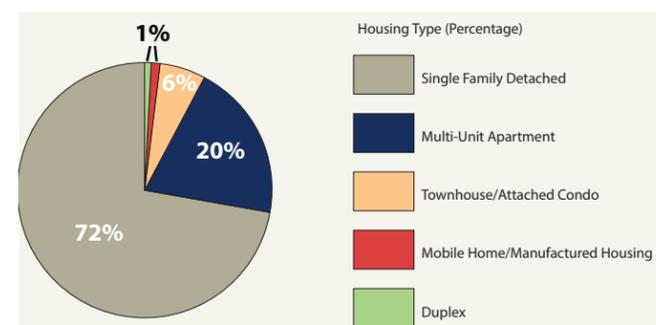
The type of housing option that is lacking in Troy is the “Missing Middle.” Missing middle housing is composed of smaller single family homes, duplexes, fourplexes, lofts, townhouses, mid-scale apartments and live-work units. Missing middle housing achieves moderate density that can be appealing to both 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.

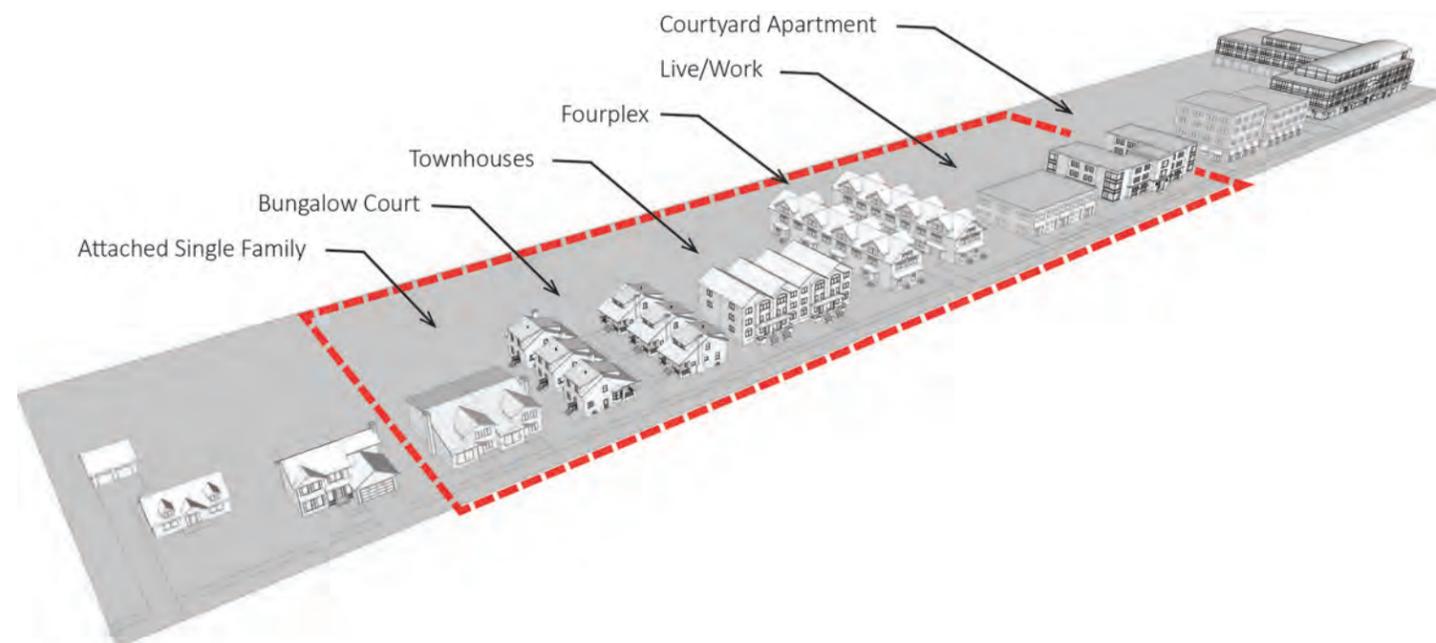
FIGURE 2.5: TROY HOUSING BY TYPE (2010)  
Source: SEMCOG





“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.*

## Chapter 10: Special Area Plans

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North Troy Special Area Plan	Page X
Rochester Road Special Area Plan	Page X
Maple Road Special Area Plan	Page X
Big Beaver Pedestrian Special Area Plan	Page X

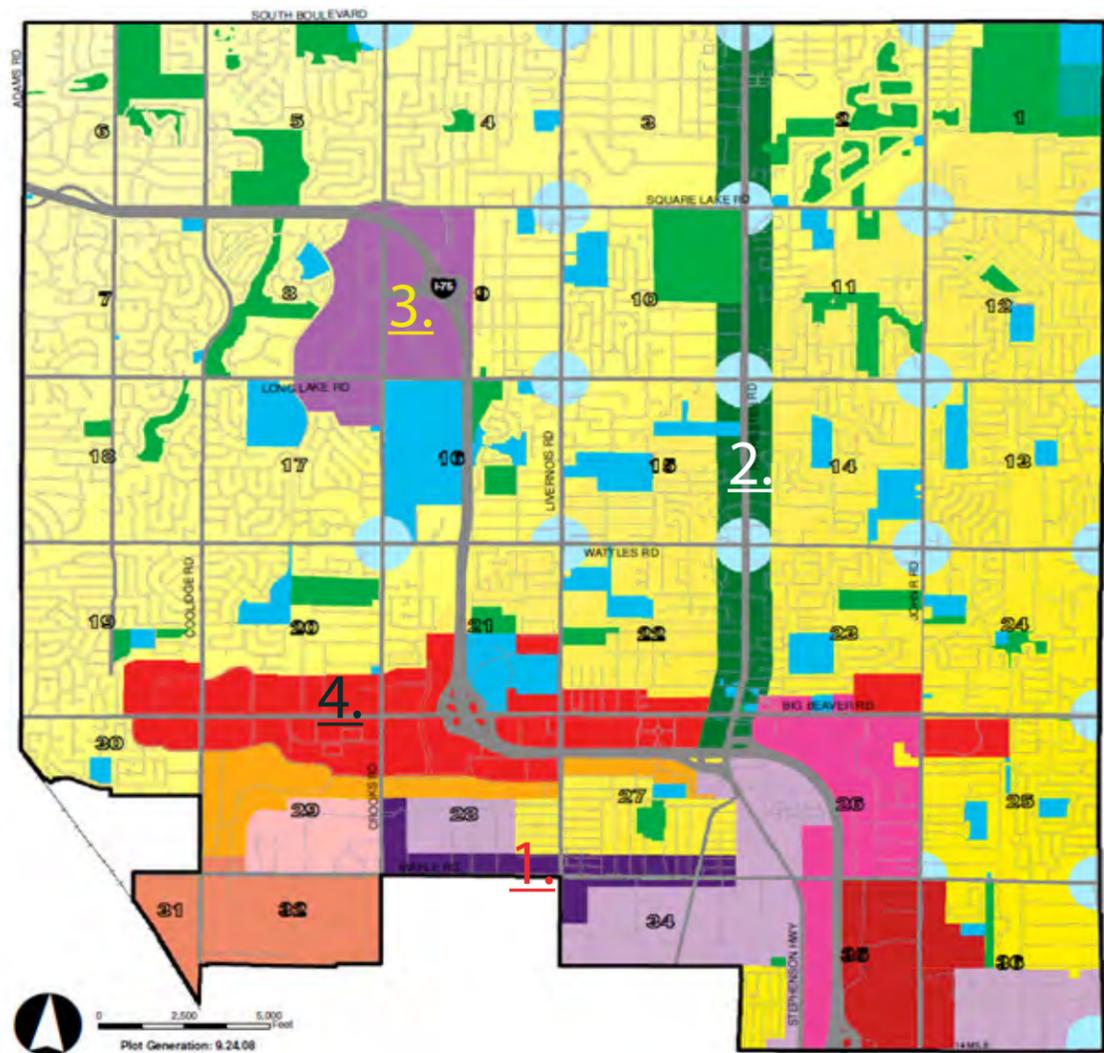
In 2008, the City of Troy inquired about a comprehensive revision to the Master Plan. The previous plan was adopted in 1965 and had twenty amendments with a complete revision.

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.

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.

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



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

## 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. A detailed discussion of the public engagement forums is found in Appendix \_\_\_\_\_. The following summarizes the content of each forum:

### 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-separated 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 was 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.

Attendees 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.

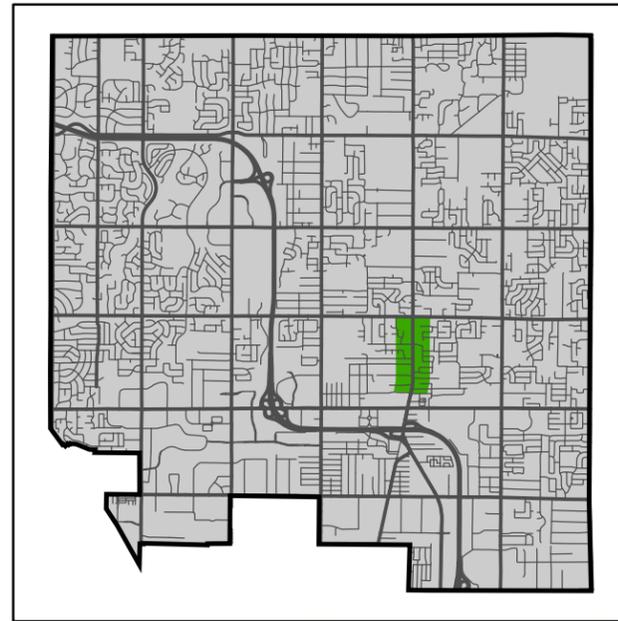
The second major takeaway was the need for improved transportation options, particularly serving seniors. Most attendees noted that because they are able to drive they are able to obtain their daily needs (health services, retail goods, social, recreational, and cultural). However, they are unsure if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

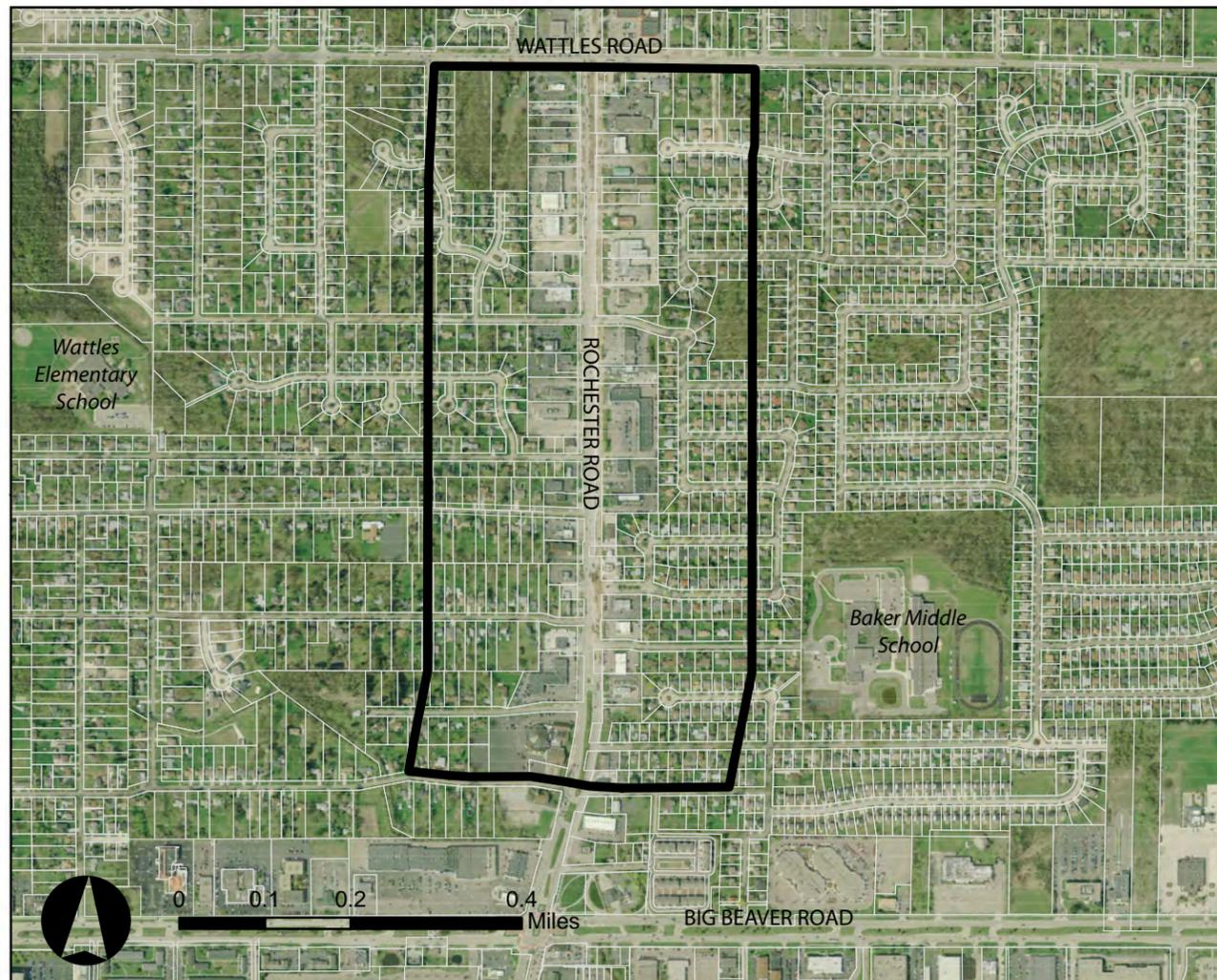
# Rochester Road

## 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 commercial areas and adjacent residential uses.*

Existing Conditions



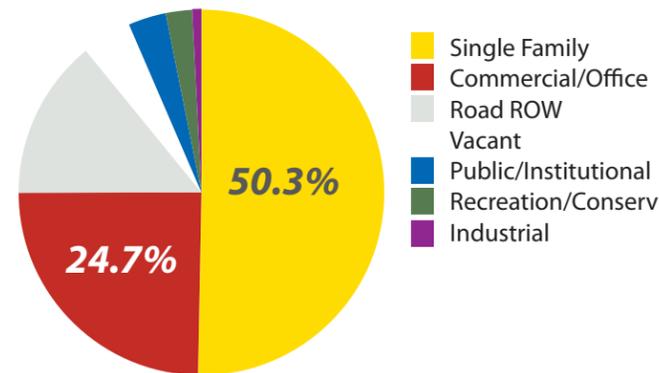
2013 Target area statistics	
Total taxable value	\$43,612,770
Total area (acres)	164
Total businesses	131
Total employees	1,037

2010 Market area statistics <sup>1</sup>	
Population	9,651
Households	3,321
Percent owner occupied	81.4 %
Median household income	\$86,712
Per capita income	\$34,928



Land Use<sup>2</sup>



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

Source: City of Troy GIS data 2013

Top Industries in Target Area by Employment<sup>2</sup>

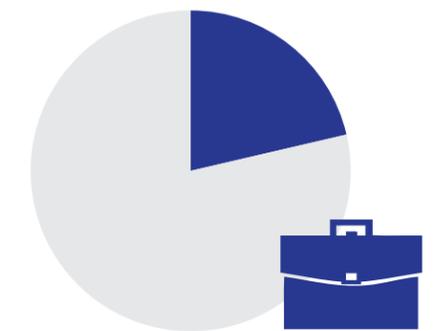


**32.1%** Finance & Insurance

	Employees	Percent (%)
<b>Finance &amp; Insurance</b>	333	32.1
<b>Administrative &amp; Support &amp; Waste Management</b>	135	13.0
<b>Accommodation &amp; Food Services</b>	124	12.0
<b>Retail Trade</b>	109	10.5
<b>Professional, Scientific &amp; Tech Services</b>	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 (%)
<b>Professional, Scientific &amp; Tech Services</b>	28	21.4
<b>Administrative &amp; Support &amp; Waste Management</b>	22	16.8
<b>Retail Trade</b>	15	11.5
<b>Other Services (except Public Administration)</b>	11	8.4
<b>Health Care &amp; Social Assistance</b>	10	7.6

Source: Esri 2013 Estimates Business Summary from Oakland County EDCA

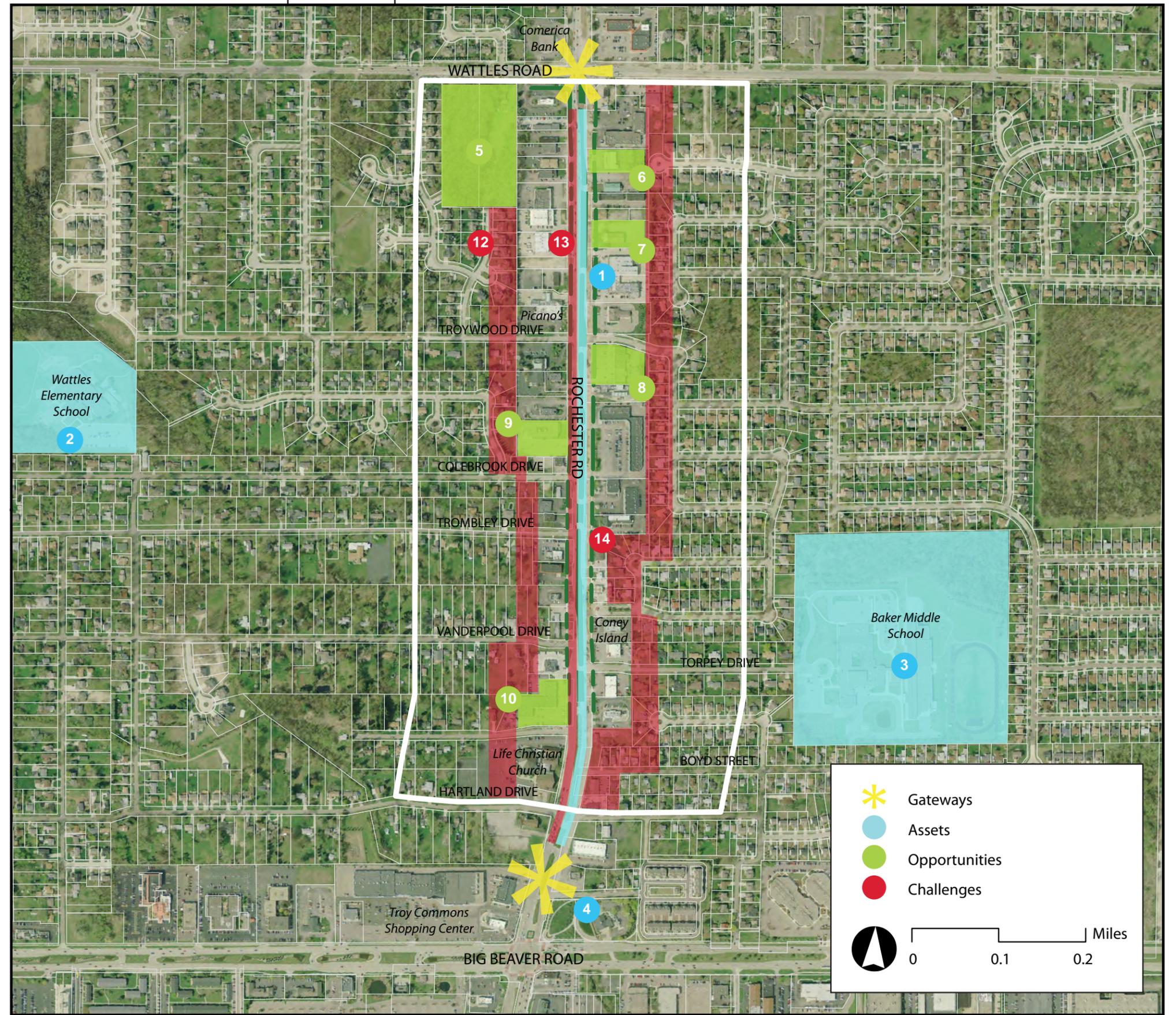
# Existing Conditions

- 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



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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:

#### 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 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: 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.



- 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	Pedestrian Connections	Building Form	Streetscape	Stormwater Management	Parking Lot Landscaping
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.	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**

**D**rivers often experience difficulty 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



Proposed

- Existing Development
- Potential New Development
- Consolidated Parcels
- Green Boulevard
- Cross Access Alleys

0
0.1
0.2
Miles

Priority 2: Improve site access and building orientation



Building oriented to Rochester Road

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.

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

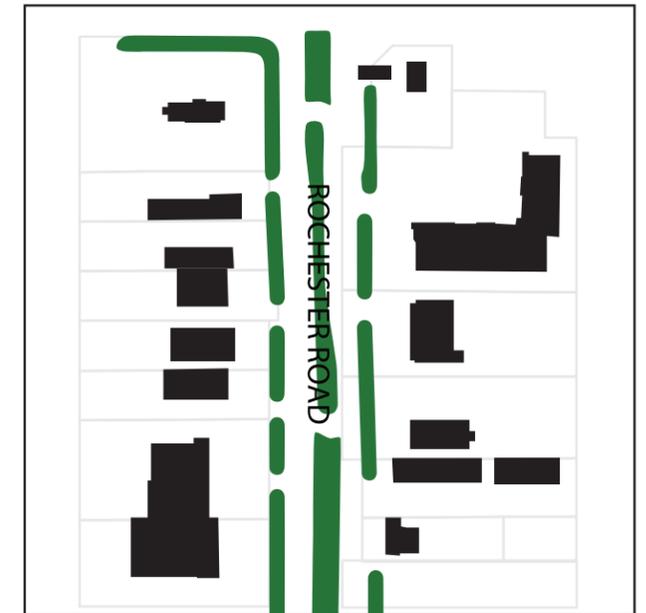
Benefits of Access Management:

- 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: Support lot consolidation

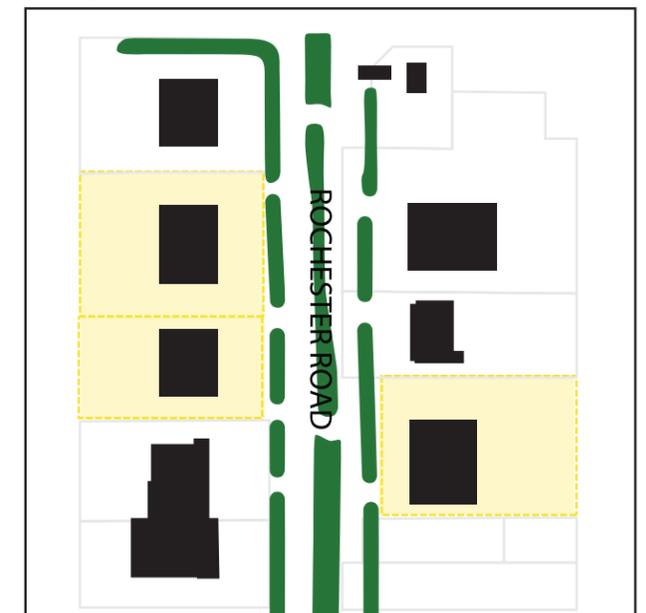
Lot consolidation provides two significant benefits. First, lot consolidation permits the elimination of curb cuts. Reducing curb cuts increases safety for motorists, cyclists, and pedestrians reducing points of vehicular conflict. Secondly, lot consolidation creates larger lots, which permit greater 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

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.



After Lot Consolidation

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.

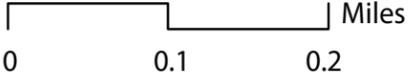


Existing Conditions



Proposed

-  Existing Development
-  Potential New Development
-  Node (1/4 Mile)
-  Green Boulevard
-  Landscape Buffer
-  Priority Bike Route

  Miles  
0 0.1 0.2

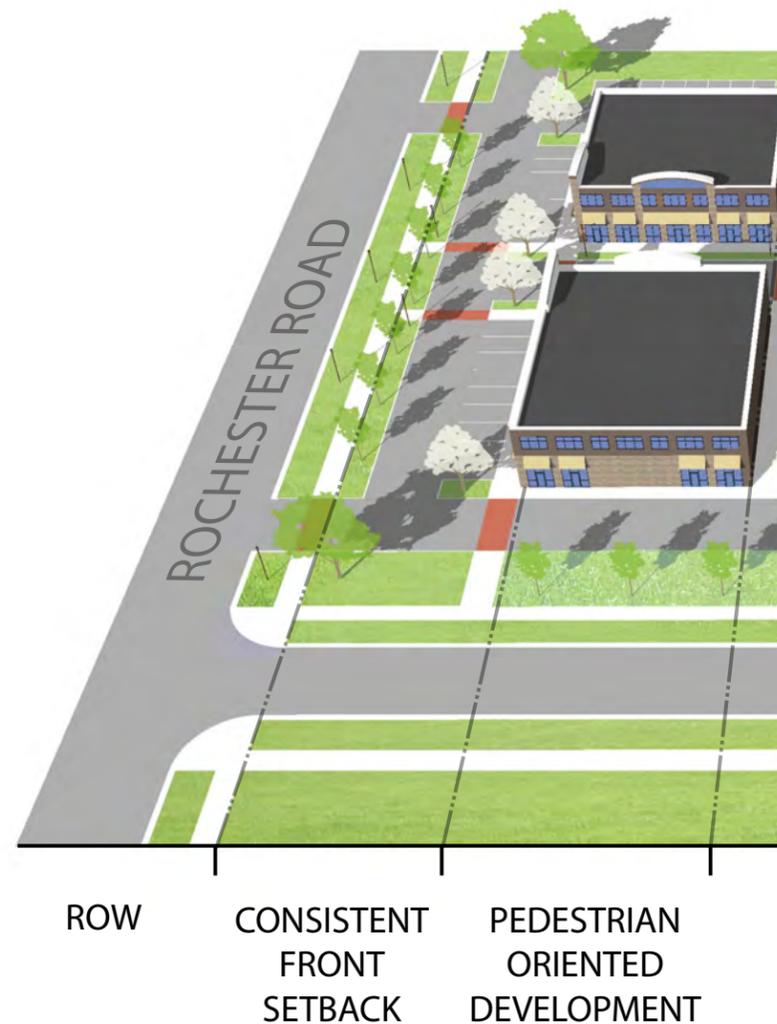
**Priority 3: Preserve adjacent residential character and encourage compatible development**

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



## 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.

**Phasing**

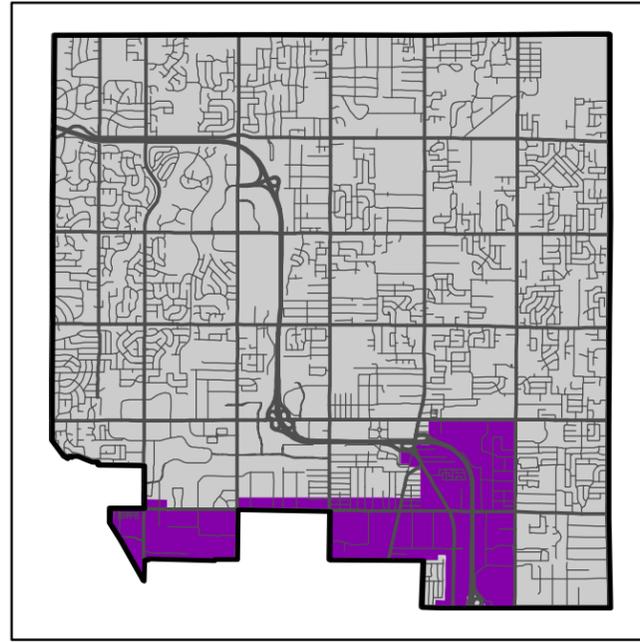
- Near 1-2 years
- Mid 3-5 years
- Long 6-10 years

	<b>Strategy</b>	<b>Actions</b>	<b>Phasing</b>	<b>Responsibility</b>	
<b>Priority 1</b> <i>Enhance the image and identity through private investment and public/private partnerships</i>	Design Guidelines	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	
	Establish building improvement program	Research building improvement programs and best practices	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
			Coordinate streetscape improvements	Near	City
	Encourage innovative stormwater management	Develop Rochester Road Stormwater Plan	Implement Streetscape Plan comprehensively or as development occurs	Near/Mid	City, Private entities
			Implement Stormwater Plan comprehensively or as development occurs	Mid	City, Private entities
	<b>Priority 2</b> <i>Improve access management</i>	Implement Rochester Road Access Management Plan between Big Beaver and Wattles Road	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	
Support lot consolidation		Create Rochester Road Overlay or amend Community Business (CB) and General Business (GB) District zoning regulations	Encourage/require lot consolidation as development occurs	Near	City
			Create Rochester Road Overlay or amend CB and GB zoning regulations	Near	City
Require a consistent building placement and parking location					
<b>Priority 3</b> <i>Protect adjacent residential</i>	Provide buffer and landscape between Rochester Road frontage parcel and adjacent residential properties	Create Rochester Road Overlay or amend CB and GB zoning regulations	Near	City	

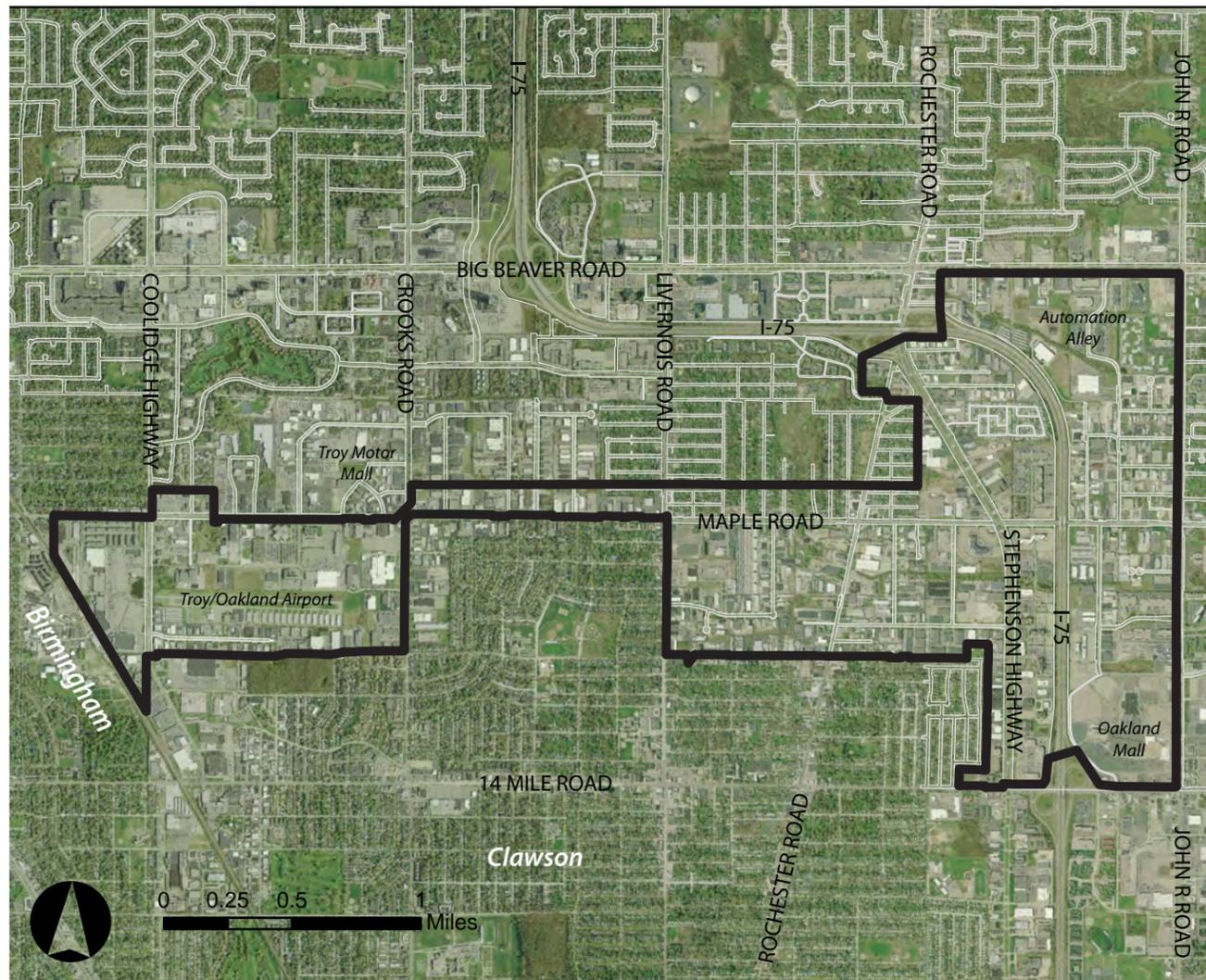
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# *Maple Road* Special Area Plan





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.*

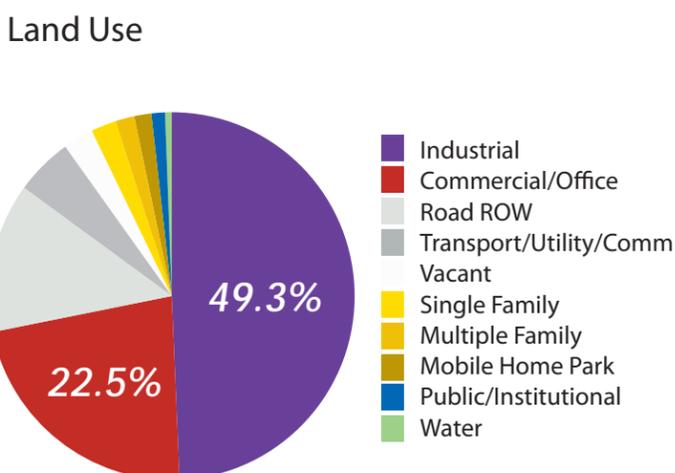
Existing Conditions



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 <sup>1</sup>	
Population	10,677
Households	4,681
Percent owner occupied	58.5%
Median household income	\$52,475
Per capita income	\$28,402



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

Source: City of Troy GIS data 2013

Top Industries in Target Area by Employment <sup>2</sup>

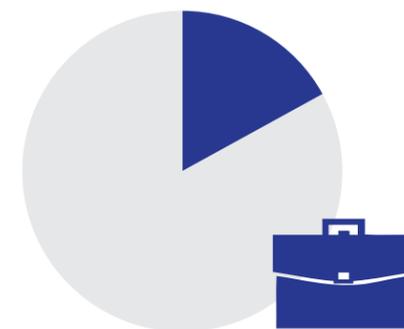


31.5% Manufacturing

	Employees	Percent (%)
<b>Manufacturing</b>	7,745	31.5
<b>Professional, Scientific &amp; Tech Services</b>	3,723	15.1
<b>Retail Trade</b>	2,918	11.9
<b>Wholesale Trade</b>	2,199	8.9
<b>Health Care &amp; Social Assistance</b>	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 (%)
<b>Professional, Scientific &amp; Tech Services</b>	277	17.0
<b>Wholesale Trade</b>	211	13.0
<b>Manufacturing</b>	205	12.6
<b>Retail Trade</b>	204	12.6
<b>Administrative &amp; Support &amp; Waste Management &amp; Remediation</b>	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

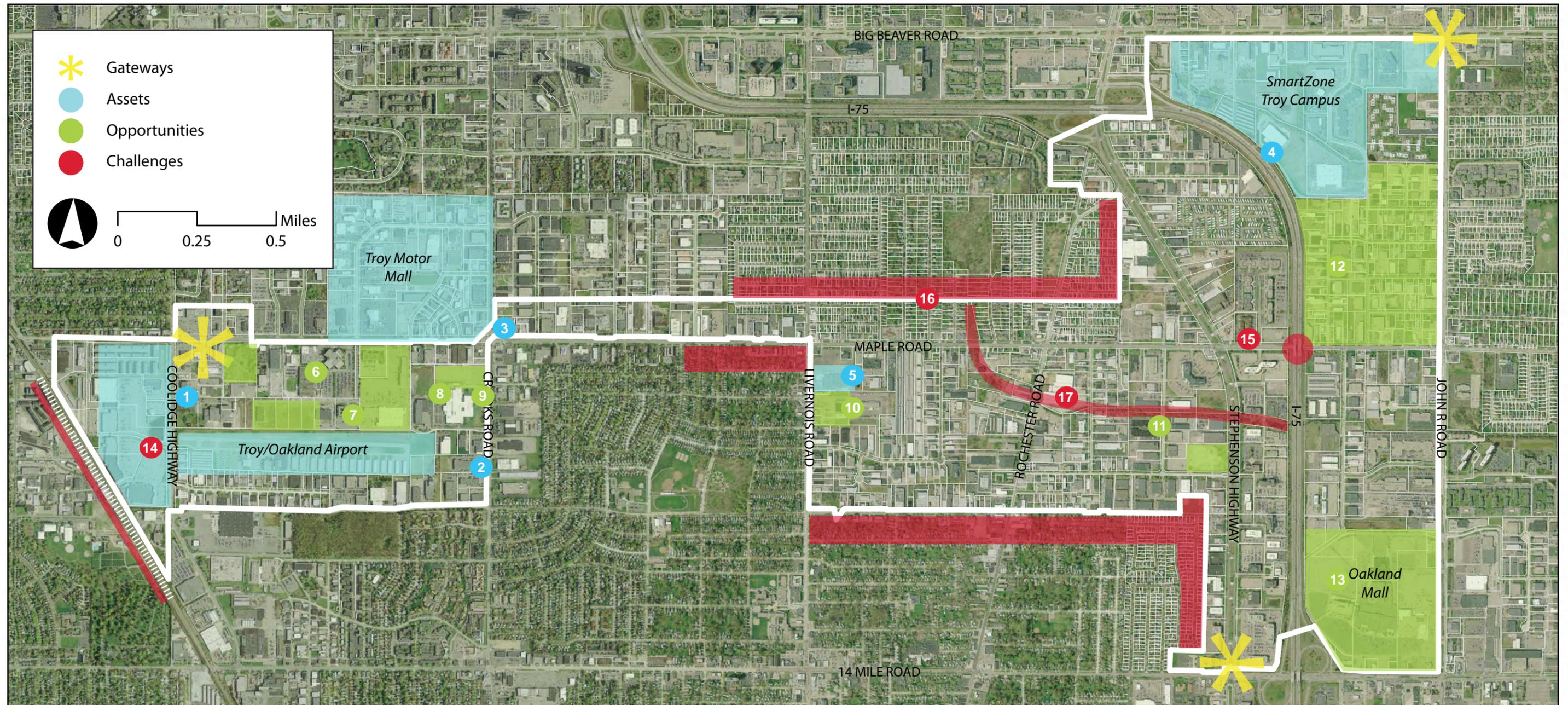
1. Midtown Square
2. Troy/Oakland Airport
3. Troy Motor Mall
4. Automation Alley/SmartZone
5. MJR Theater

### 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

**M**aple 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 entrepreneurship and redevelopment

#### Strategies:

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

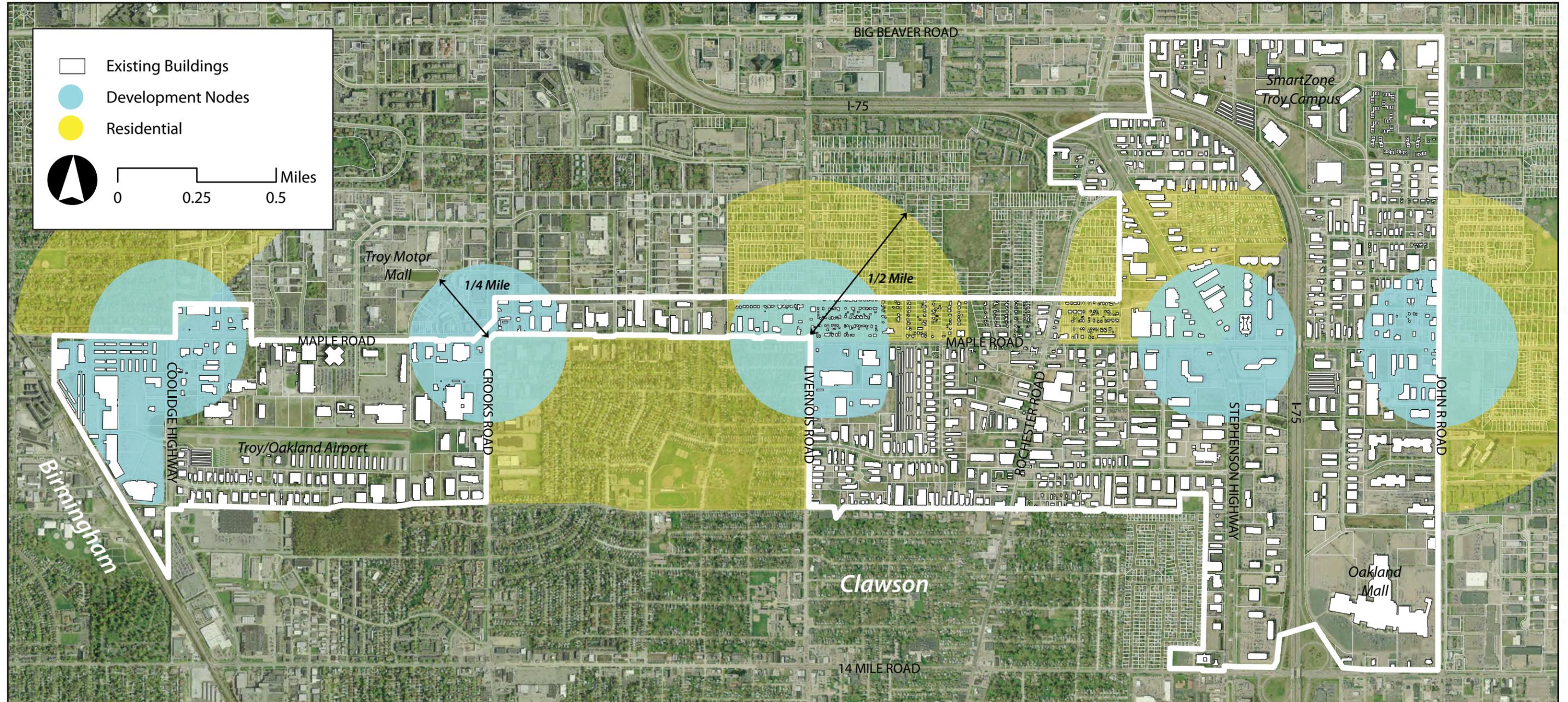
### 3. Enhance and strengthen segments between major mile intersections

#### 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



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.

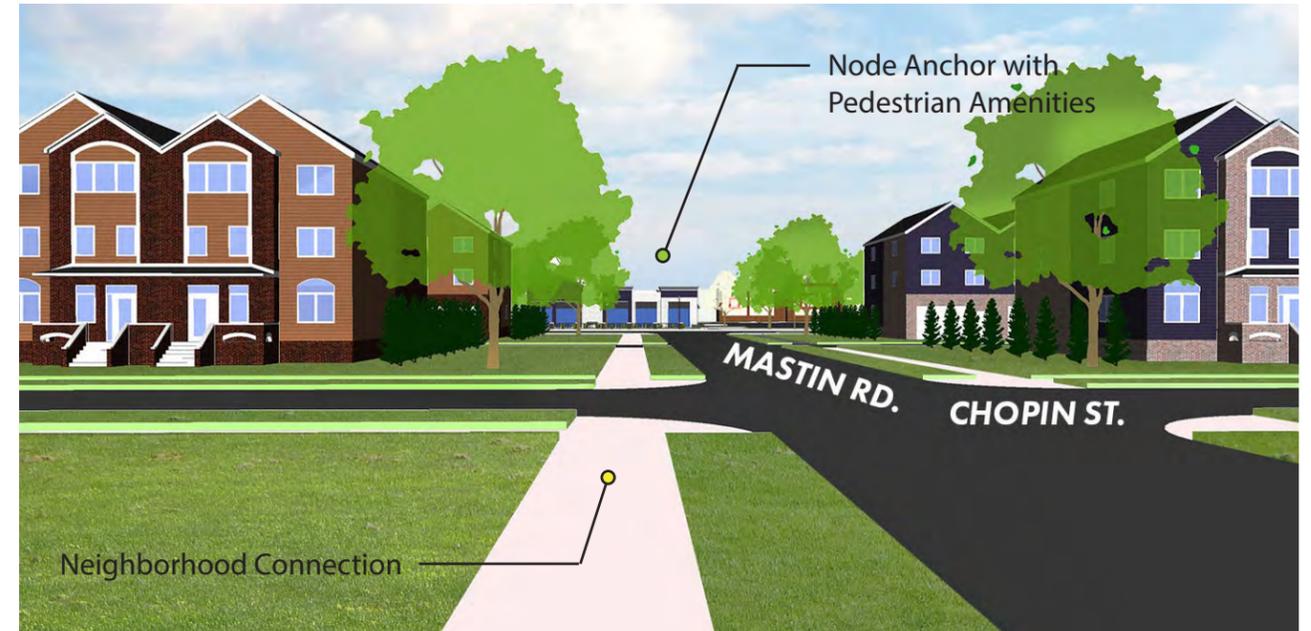
Within a ½ mile walking distance of the Maple Road major mile intersections, there are thousands of residents from the communities of Troy, Clawson, Sterling Heights, and Birmingham. One-half (½) mile is the typical maximum distance people without mobility limitations are willing to walk. These residents 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.

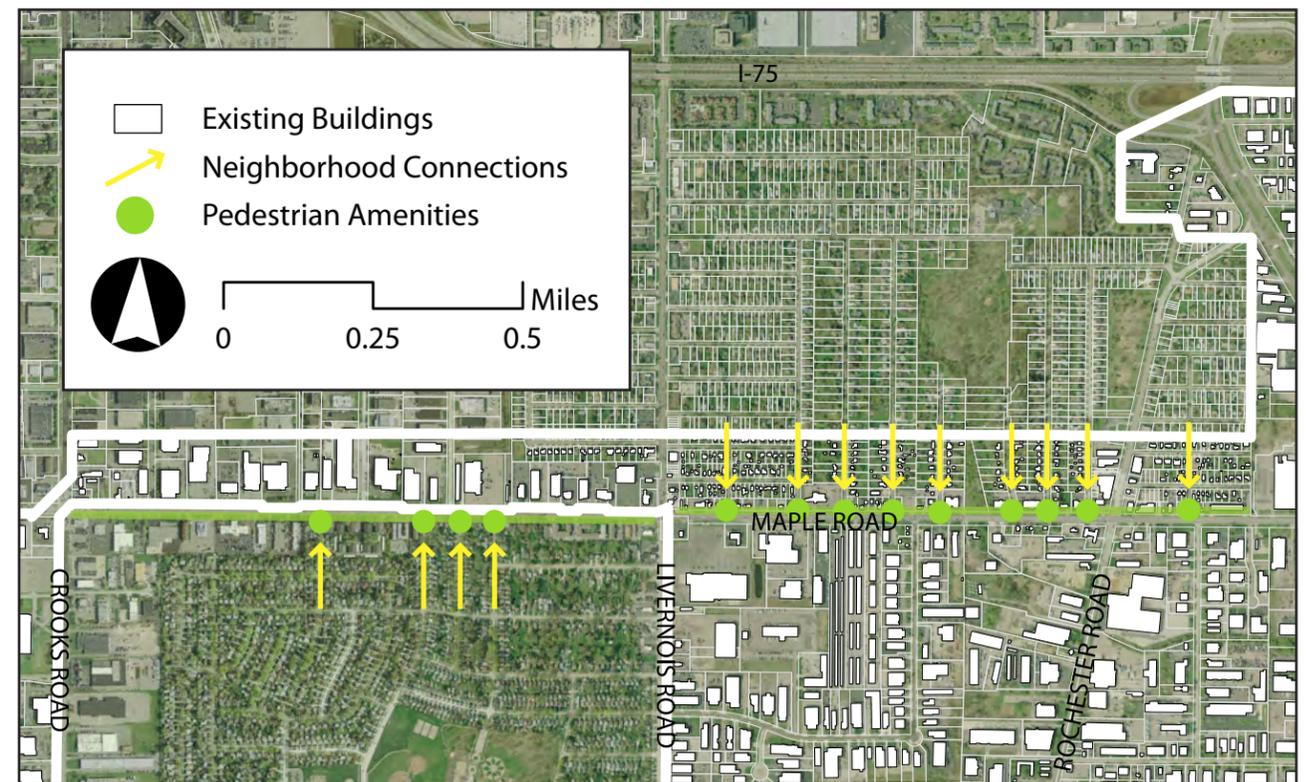
Additional improvements to engage the surrounding residential neighborhood is to improve public transportation and improve the linkage to the new Troy Transit Center. The City should work with SMART to improve bus service along the corridor and upgrade the SMART bus stops to shelters.

**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*

*Potential Flexibility Incentives and Recognized Benefits*

Recognized Benefit	Flexibility in Application of Zoning Standards				
	(1) Drive-thru	(2) Build-to-Line Flexibility	(3) Increased Building Height	(4) Site Reclassification	(5) Increased Signage
(a) Lot Consolidation				x	
(b) Mixed Use Development	x	x	x		x
(c) Inclusion of Transit Amenity		x	x		x
(d) Sustainable Design and Development	x	x	x		x
(e) Pedestrian Facilities and/or Amenity			x		x
(f) Public Art					x

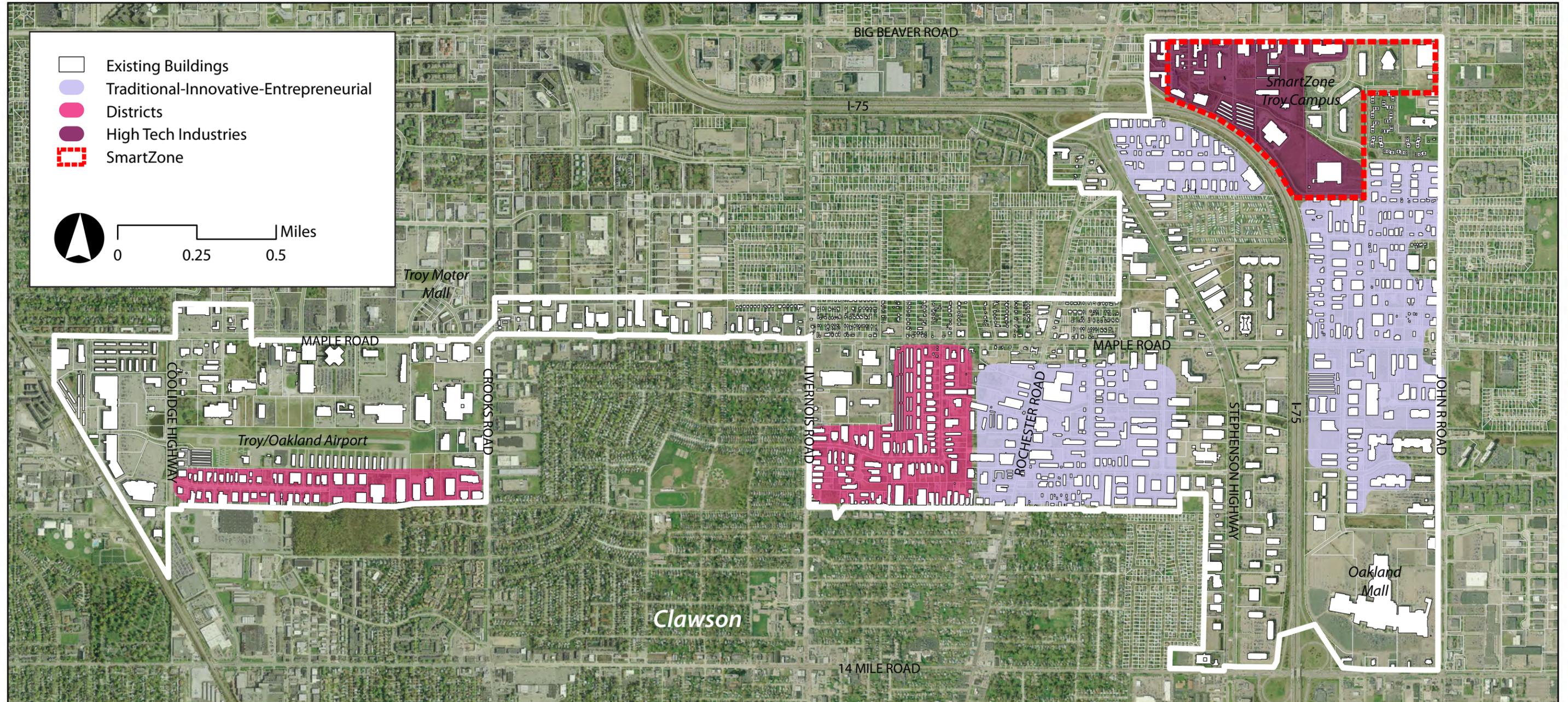


*Transit Amenity - Troy Transit Center*



*Pedestrian Amenity in Orland Park, IL*

Priority 2: Encourage entrepreneurship and redevelopment



Existing Conditions



Rochester-Rankin



Chicago-Bellingham



Industrial Row



Park-Combermere



Bellingham



Automation Alley

Priority 2: Encourage entrepreneurship 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 entrepreneurship 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 entrepreneurship and redevelopment

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.

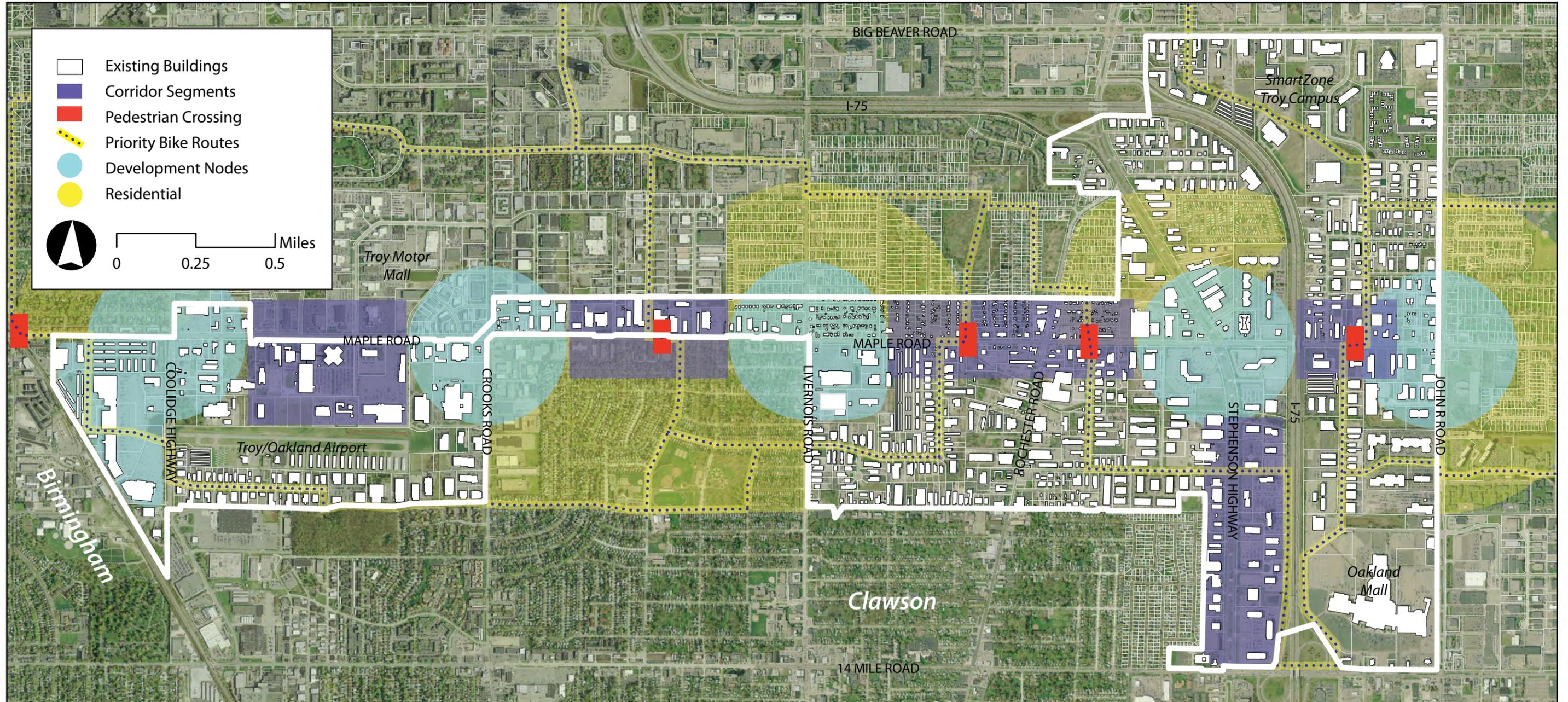


Eton Road Corridor in Birmingham, MI



Container City in Las Vegas, NV

Priority 3: Enhance and strengthen segments between major mile intersections



**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 entrepreneurship 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 entrepreneurship.



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.

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.



Residential-Missing Middle Housing



Residential

### 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.

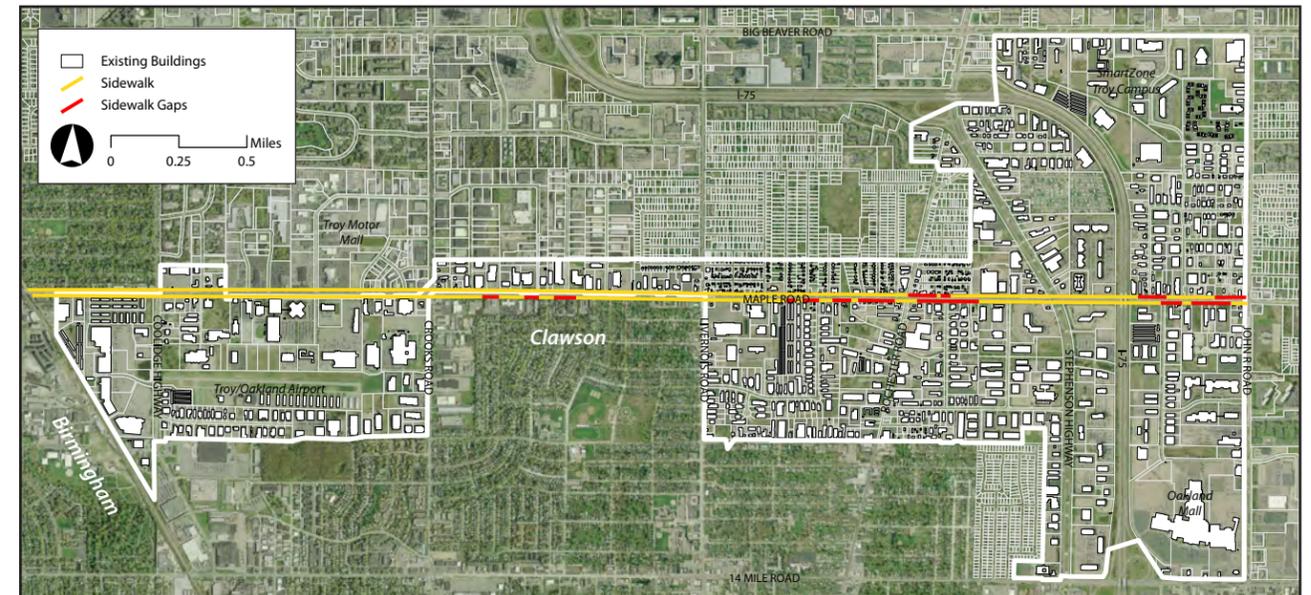
Strategy: Improve pedestrian access

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



#### Streetscape Improvements:

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

#### 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.

**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:

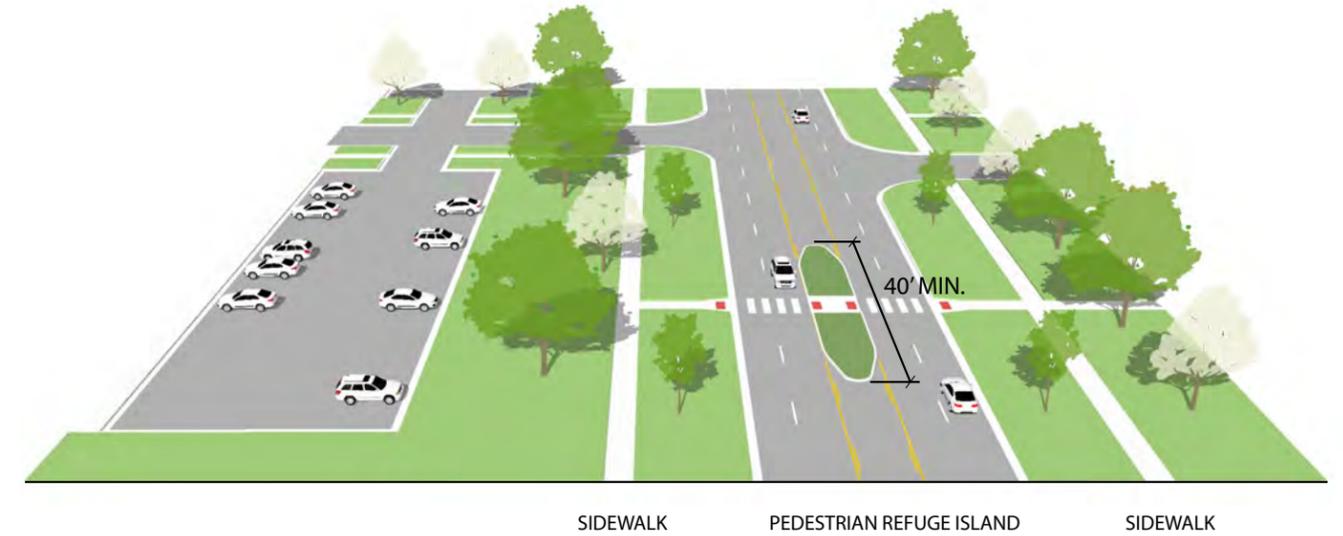
- At all major mile road intersections
- Improvements to existing crossing at Edenborough Road (Birmingham)/Doyle Drive
- Crosswalk at light at Maplawn
- Mid-block crossing near Heide Drive/Bywood Avenue (Clawson)
- Improvements to existing crossing at Combermere Drive
- Mid-block crossing near Bellingham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



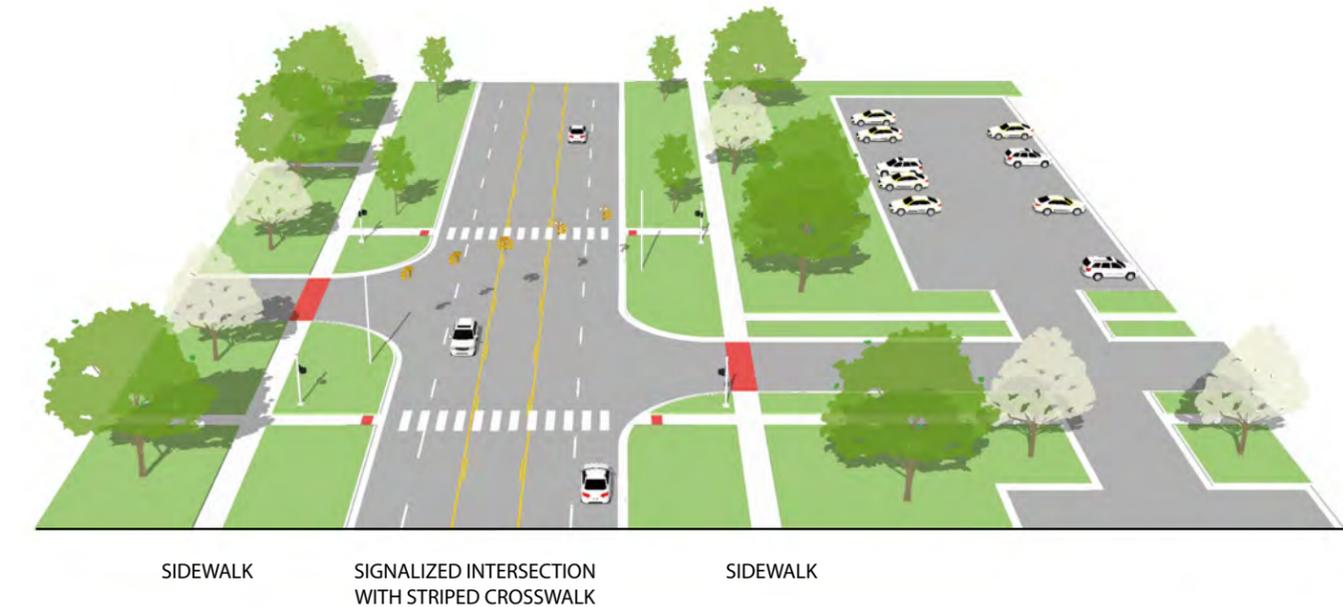
*Provide Pedestrian Crossing near SMART Bus Stops*



*Improve Striping at Intersection Crosswalks*

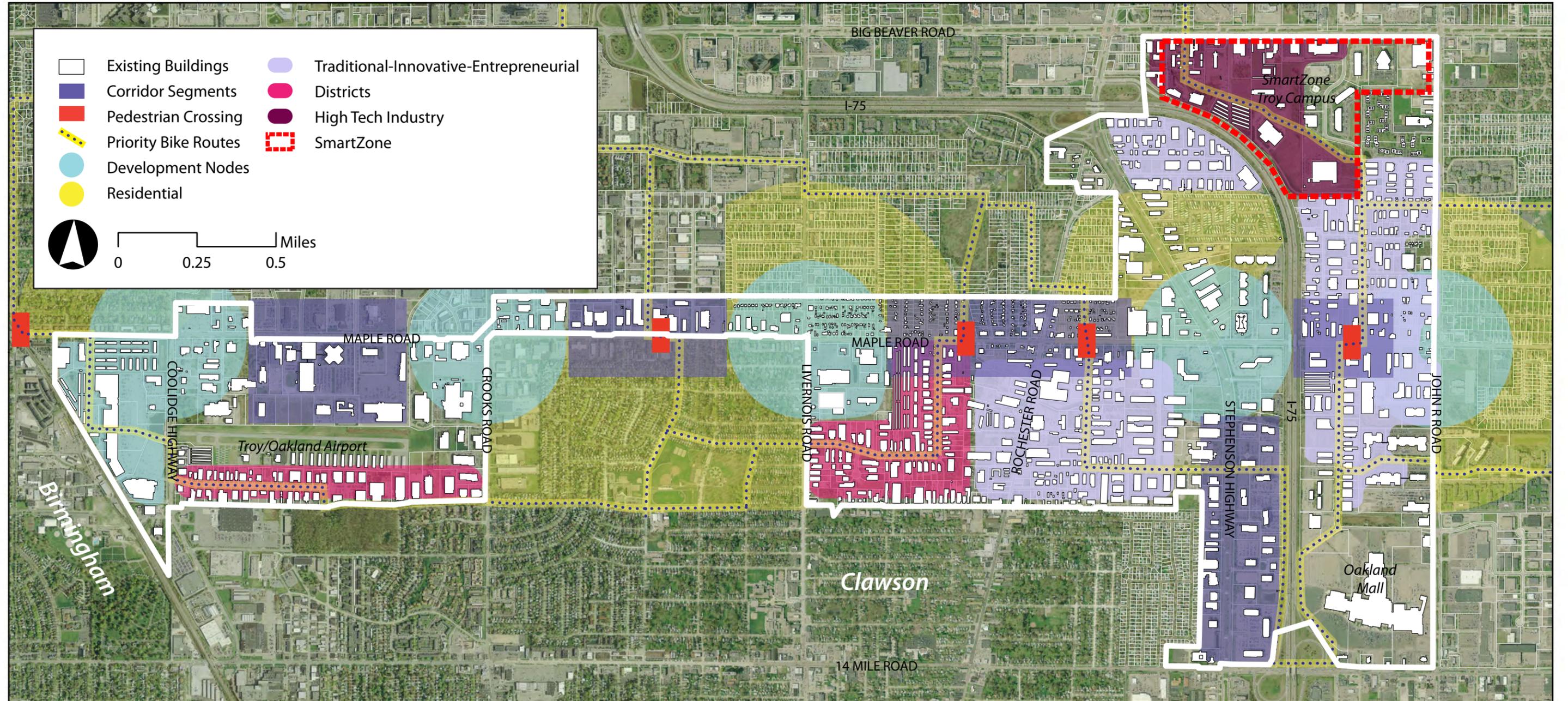


*Unsignalized Pedestrian Mid-Block Crossing*



*Signalized Pedestrian Mid-Block Crossing*

# Maple Road Strategic Plan Map



## 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.

**Phasing**

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

	Strategy	Actions	Phasing	Responsibility
<b>Priority 1</b>  <b>Generate investment at development nodes</b>	Encourage high-quality commercial /mixed-use development at major mile intersections	Evaluate all tools to encourage and incentivize lot consolidation	Near	City
		When evaluating new developments: <ul style="list-style-type: none"> <li>• Review cross-access easements and pedestrian access to create walkable developments</li> <li>• Require shared parking facilities where appropriate</li> <li>• 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</li> <li>• Ensure that outlot development is compatible with anchor development</li> <li>• Require good design including consistent signage, pedestrian lighting, and increased landscaping along roadways and in parking lots</li> </ul>	Near	
		Ensure redevelopment of corners of major mile intersections are redeveloped with buildings at the hard corner	Mid/Long	City, Private Entities
	Engage surrounding residential neighborhoods through linkages	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
	Incentivize development through zoning	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

<b>Priority 2</b> <b>Encourage entrepreneurship and redevelopment</b>	<b>Strategy</b>	<b>Actions</b>	<b>Phasing</b>	<b>Responsibility</b>
	Preserve and enhance tradition-innovation-entrepreneurship industrial areas		Evaluate public infrastructure needs in industrial areas	Mid
Work with existing firms in industrial areas to provide city resources and assist in obtaining regional, state, and federal resources			Near	City
Promote creation of districts and encourage compatible industries		Evaluate city codes and policies to remove any barriers to adaptive reuse	Near	City

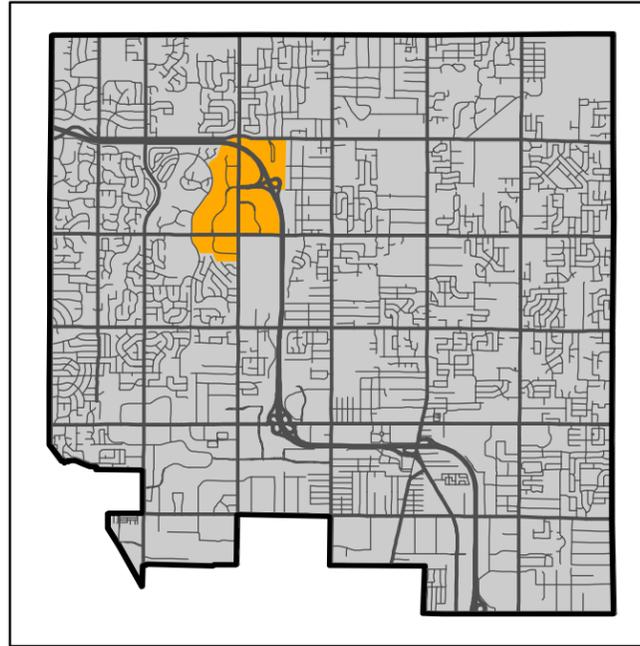
<b>Priority 3</b> <b>Enhance and strengthen segments between major mile intersections</b>	<b>Strategy</b>	<b>Actions</b>	<b>Phasing</b>	<b>Responsibility</b>
	Identify alternative value		Evaluate interior corridor segments for areas of stable assets and encourage entrepreneurial development and growth	Mid
Permit alternative land uses including residential and useable open space			Mid	City
Find opportunities along corridor to install public spaces			Mid	City, Private Entities
Implement zoning amendments to permit flexibility		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
Improve pedestrian access		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
Improve pedestrian crossings		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 Maplawn 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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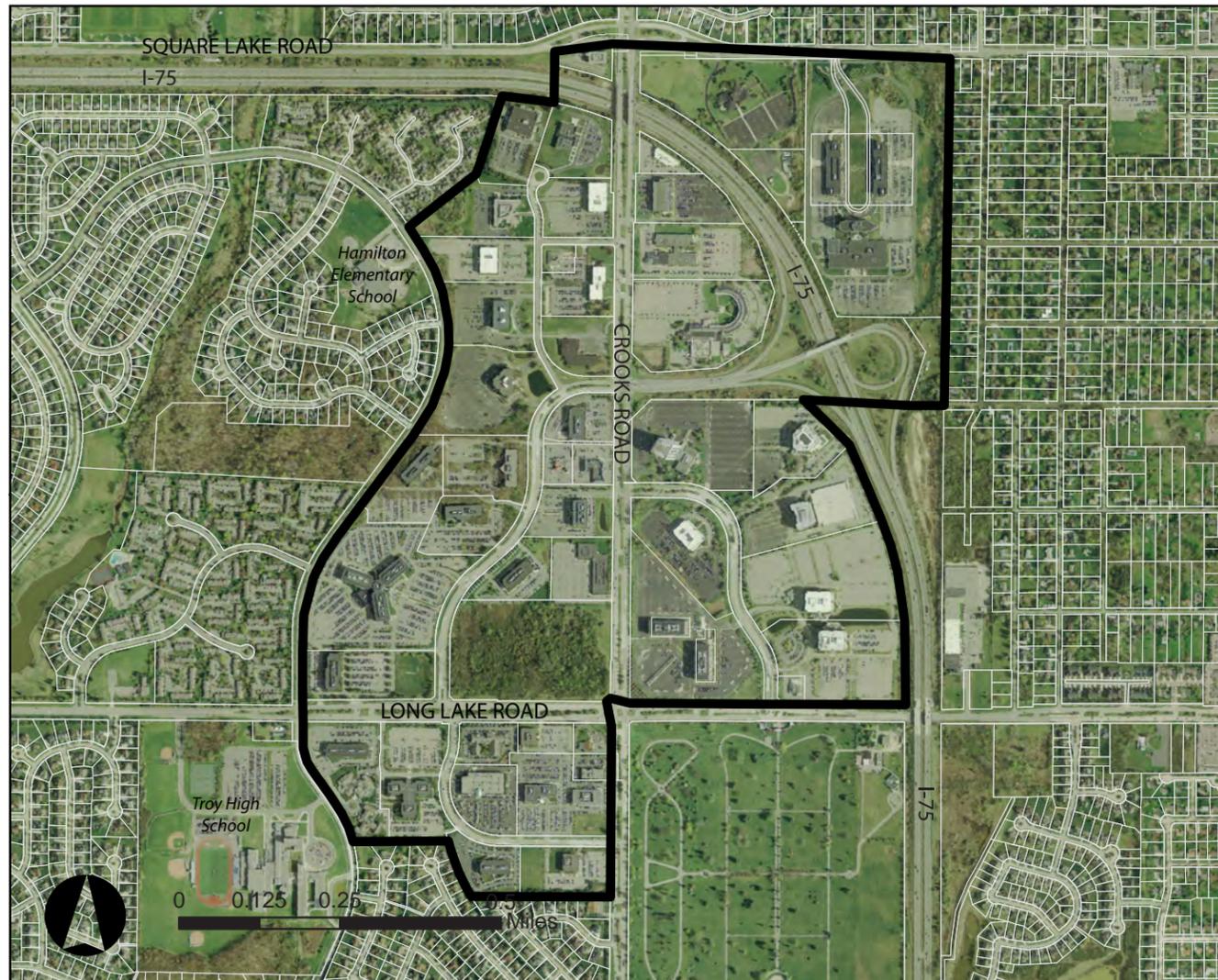
# *North Troy*

## 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.*

## Existing Conditions



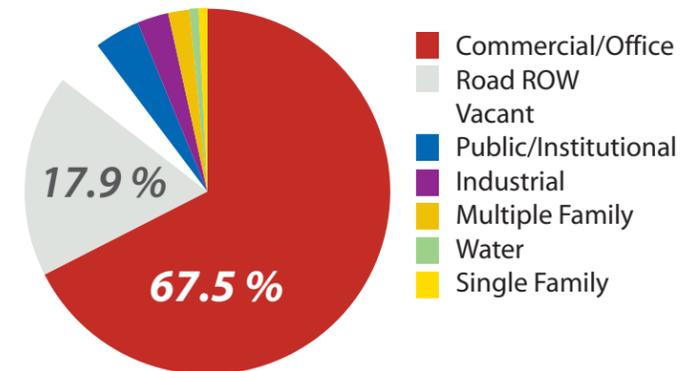
### 2013 Target area statistics

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

### 2010 Market area statistics<sup>1</sup>

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

### Land Use



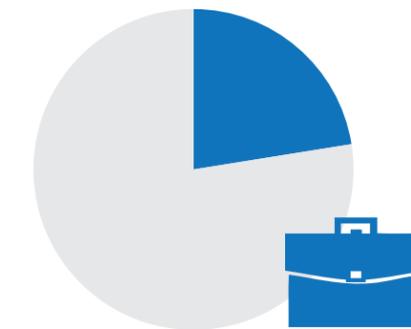
Source: Esri 2013 Estimates Business Summary from Oakland County EDCA, Census 2010, City of Troy GIS data 2013  
 Note: 1. Market Area includes households within 1 mile of Target Area. 2. Employee and Business data use NAICS codes.

## Property Data

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

Source: City of Troy GIS data 2013

### Top Industries in Target Area by Employment<sup>2</sup>

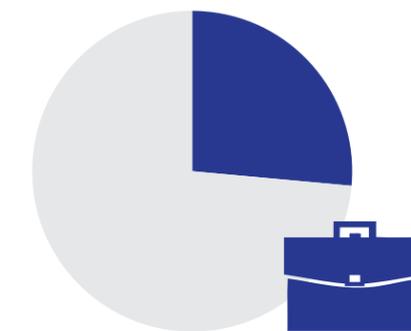


**21.5 %** Professional, Scientific & Tech Services

	Employees	Percent (%)
<b>Professional, Scientific &amp; Tech Services</b>	1,084	21.5
<b>Manufacturing</b>	1,035	20.5
<b>Finance &amp; Insurance</b>	683	13.5
<b>Administrative &amp; Support &amp; Waste Management</b>	521	10.3
<b>Real Estate</b>	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 (%)
<b>Professional, Scientific &amp; Tech Services</b>	76	27.0
<b>Administrative &amp; Support &amp; Waste Management</b>	43	15.2
<b>Finance &amp; Insurance</b>	37	13.1
<b>Manufacturing</b>	17	6.0
<b>Real Estate</b>	17	6.0
<b>Other Services (except Public Administration)</b>	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

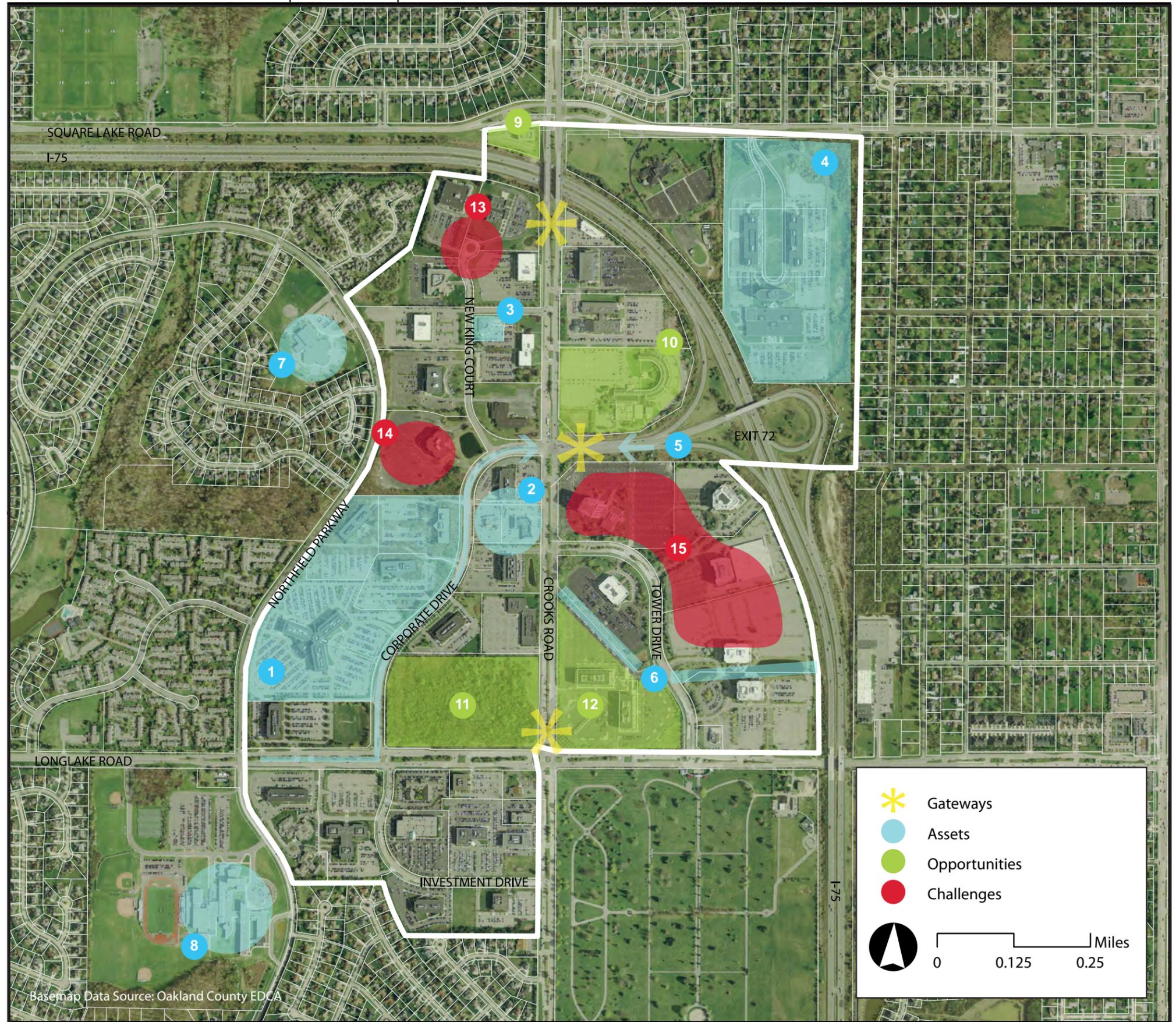
1. Flagstar Bank Headquarters
2. Northfield Point Marketplace
3. The Learning Experience childcare facility
4. Delphi Headquarters
5. Direct access to and from I-75
6. Quality stormwater management design
7. Hamilton Elementary School
8. Troy High School

## 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



## 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:

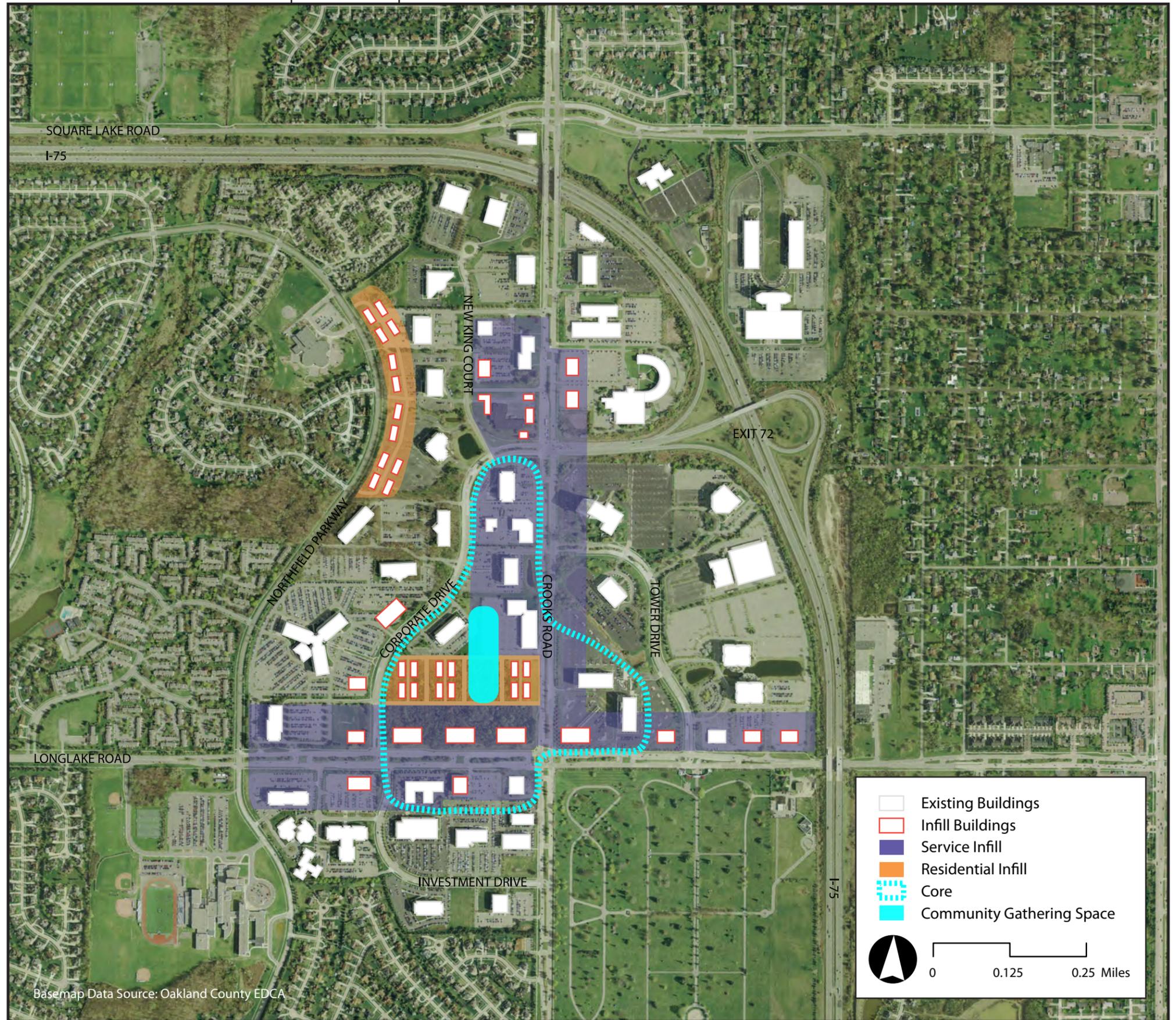
- Create an identity through gateways and wayfinding
- Facilitate health and wellness initiatives
- Encourage creative programming

**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.



## 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

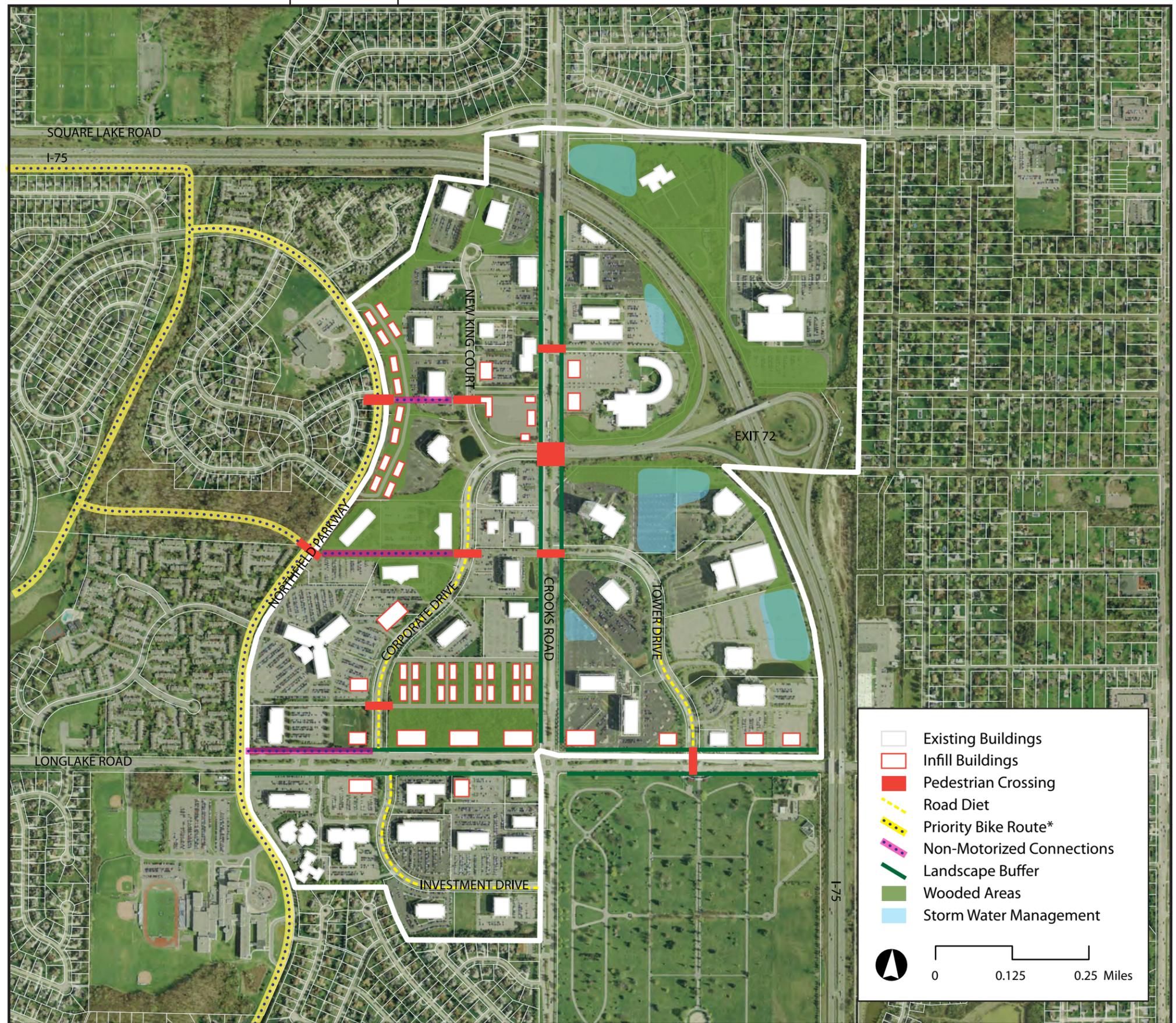


Conceptual design for North Troy community gathering space

## 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.



## 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-modal 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)

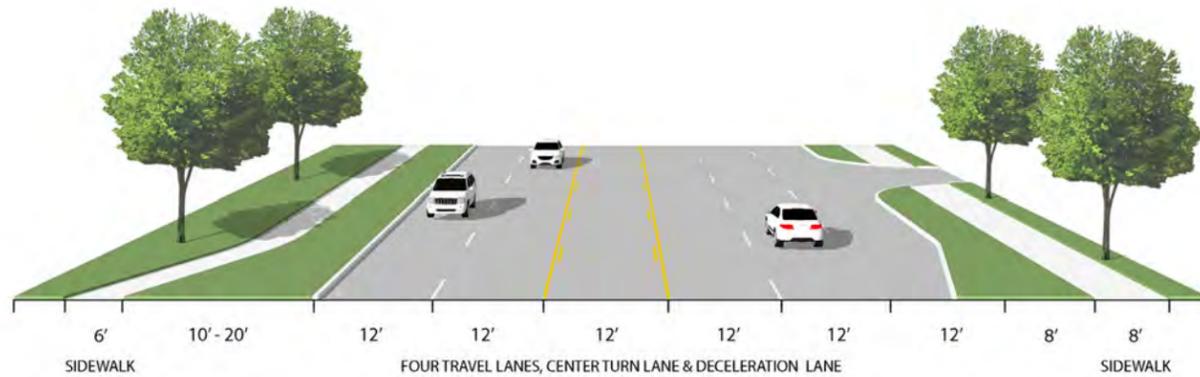


FIGURE A.2: Corporate Drive Proposed Conversion (120 foot ROW)

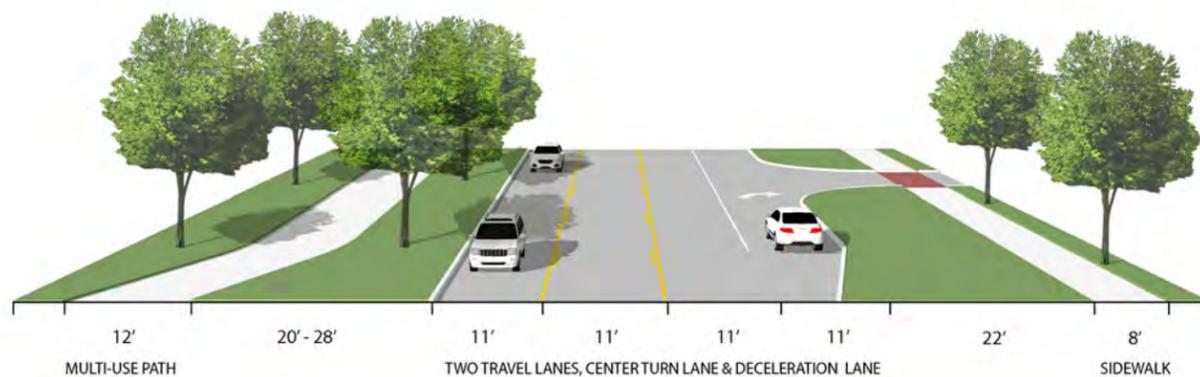


FIGURE A.3: Investment Drive Existing Conditions (86 foot ROW)

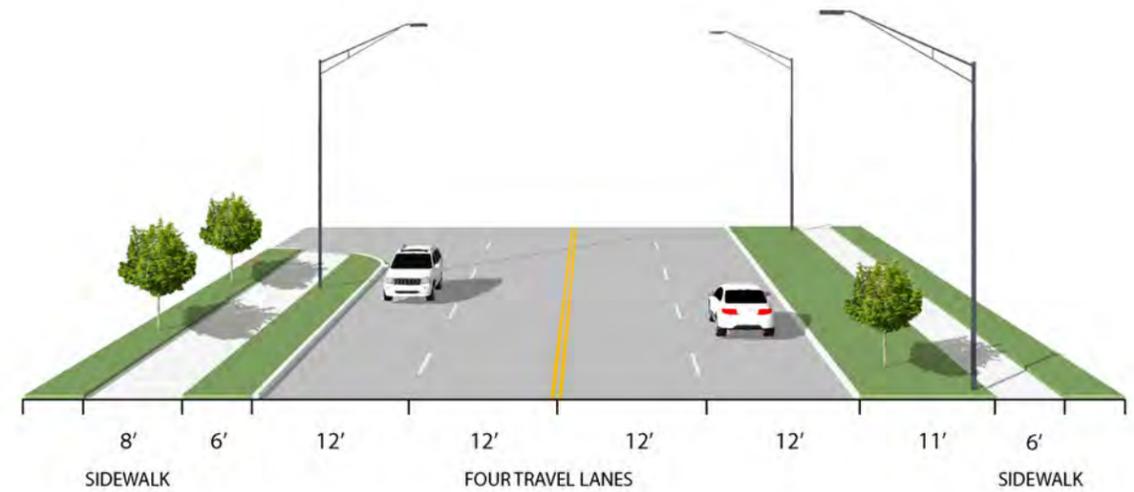


FIGURE A.4: Investment Drive Proposed Conversion 1 (86 foot ROW)

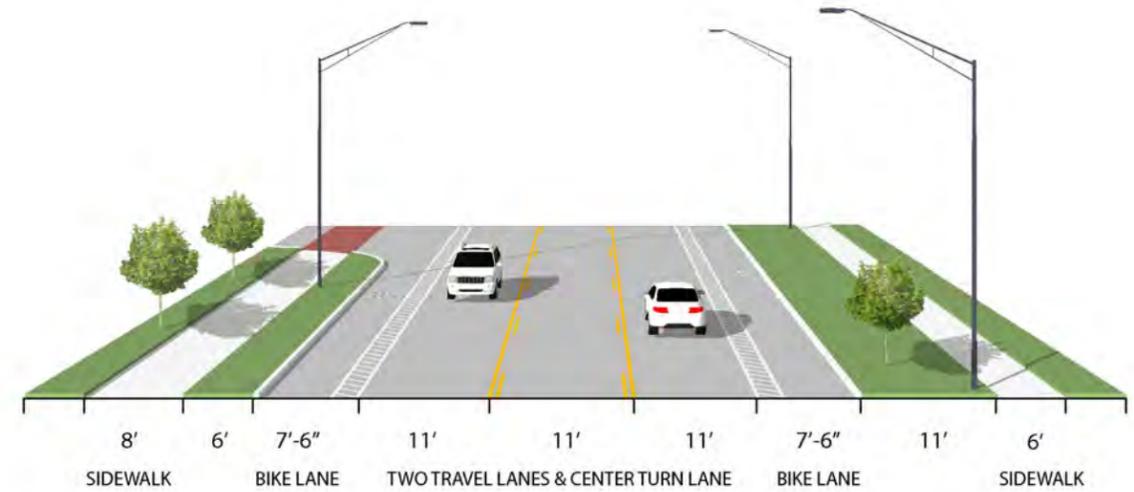


FIGURE A.5: Investment Drive Proposed Conversion 2 (86 foot ROW)



## Priority 2: Improve Multi-modal Circulation and Safety



Cyclist at Corporate Drive and Crooks Road

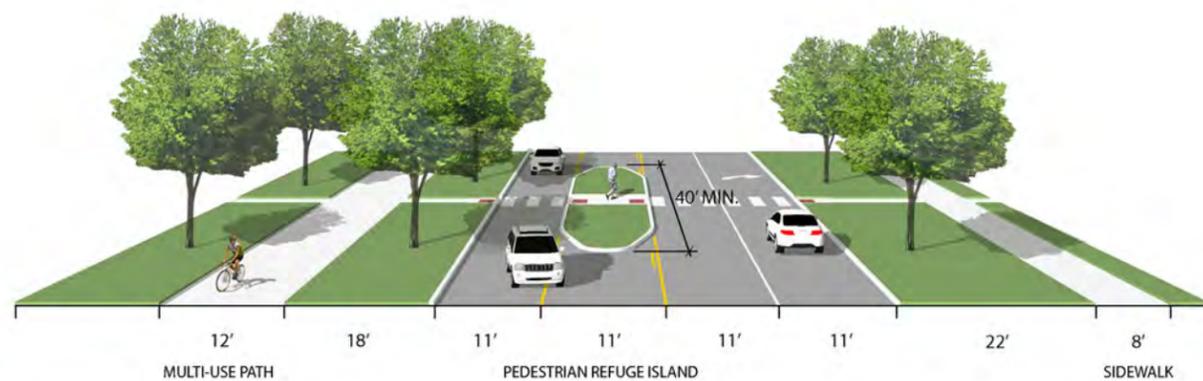
Strategy: Introduce pedestrian mid-block crossing

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.



Crosswalk in Chicago, IL

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

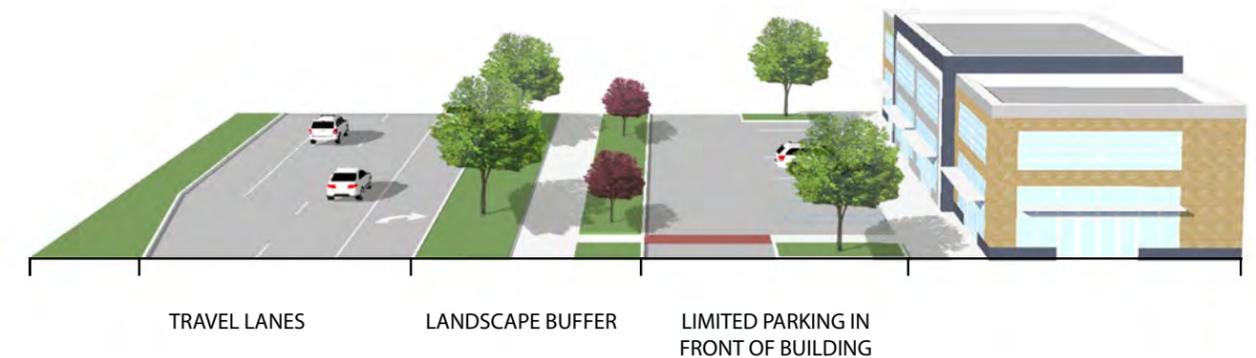


New Development along Big Beaver in Troy, MI

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



Flagstar Bank Headquarters driveway

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.



Wayfinding signage

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.

#### 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*

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.



Mark's Carts in Ann Arbor, MI



Clinton River Trail in Rochester, MI

## 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.

### Phasing

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

	Strategy	Actions	Phasing	Responsibility
<b>Priority 1</b> <b>Provide a Compatible and Vibrant Mix of Use</b>	Promote service infill through property repurposing	Identify sites for infill and meet with property owners	Near	City, Private entities
		Amend zoning if necessary	Near	City
	Promote residential infill through property repurposing	Identify sites for infill and meet with property owners	Mid/Long	City, Private entities
		Amend zoning if necessary	Mid/Long	City
	Develop and strengthen core	Implement infrastructure improvements	Mid/Long	City, Private entities
		Encourage development of the core	Mid/Long	City, Private entities
Create a community gathering space	Design and construct public space	Mid/Long	City, Private entities	
<b>Priority 2</b> <b>Improve Multi-modal Circulation and Safety</b>	Study and implement road diets	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
	Introduce pedestrian mid-block crossing	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
	Establish consistent landscape buffer and setbacks	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
<b>Priority 3</b> <b>Inspire Tactical Placemaking to Create a Lively Place</b>	Create an identity through gateways and wayfinding	Create and install gateway and wayfinding program	Mid	City, private entities
		Work with existing corporations to establish common identification signage	Mid	Private entities
	Facilitate health and wellness initiatives	In cooperation with gateway and wayfinding program, identify North Troy walking and biking loop	Mid	Private entities
	Encourage creative programming	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
	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.



## 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.

#### 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.



Pasadena, CA

### 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

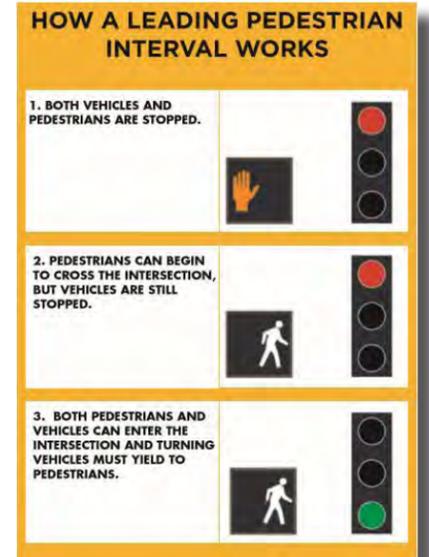
The majority of crossings along the corridor already have pedestrian countdown timers. All new or modernized traffic signals should include countdown timers. Existing signalized intersections can be retrofitted with this type of signal. All countdown timers should be programmed to allow pedestrians to 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 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

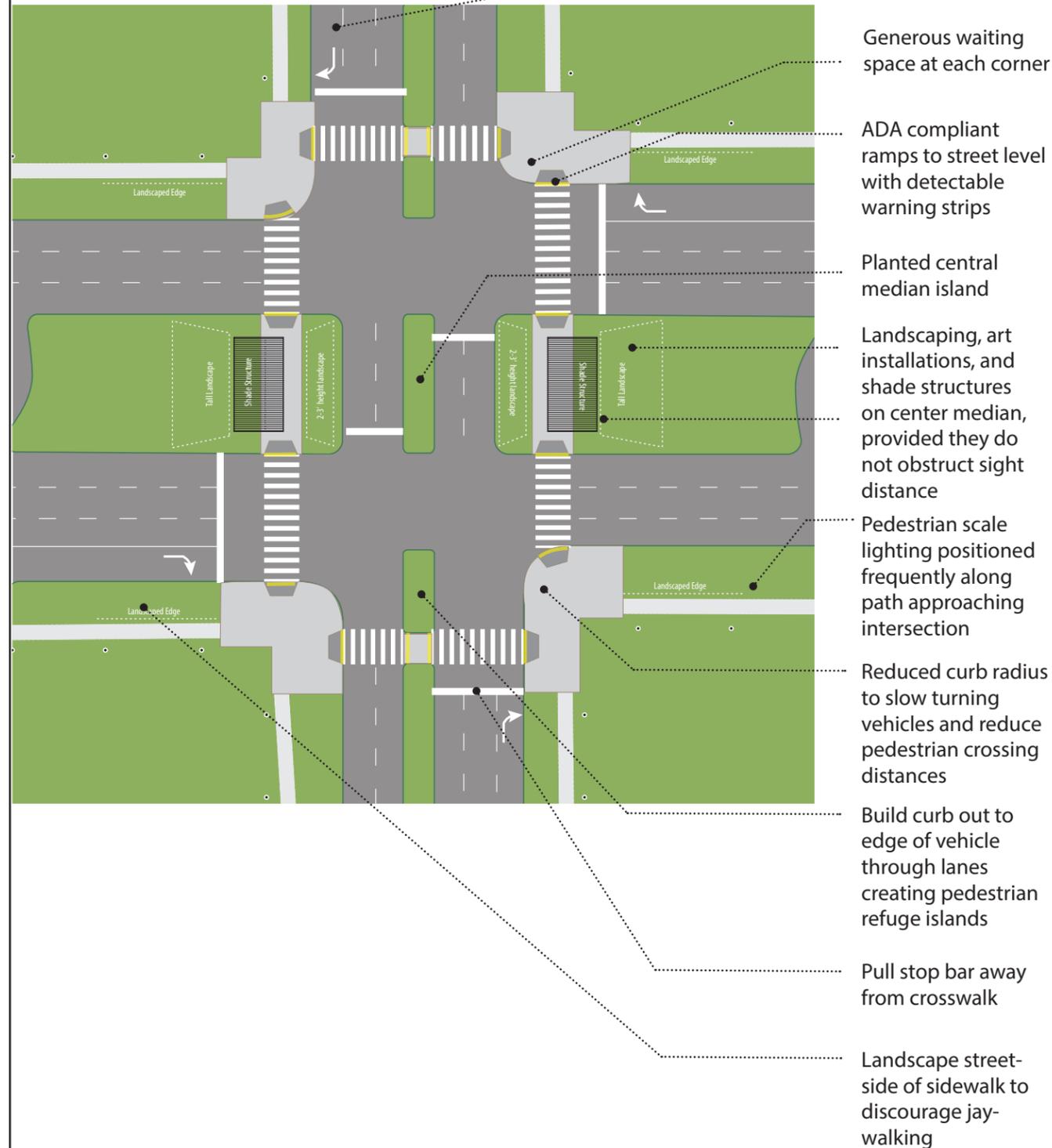
Landscaping around intersections should be low so as not to block views of pedestrians approaching a crosswalk. Trees and tall landscaping should not be planted within a 25 ft view triangle at intersections or side street connections. Most lengths of sidewalk along Big Beaver are offset 10-15 ft from 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



## 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

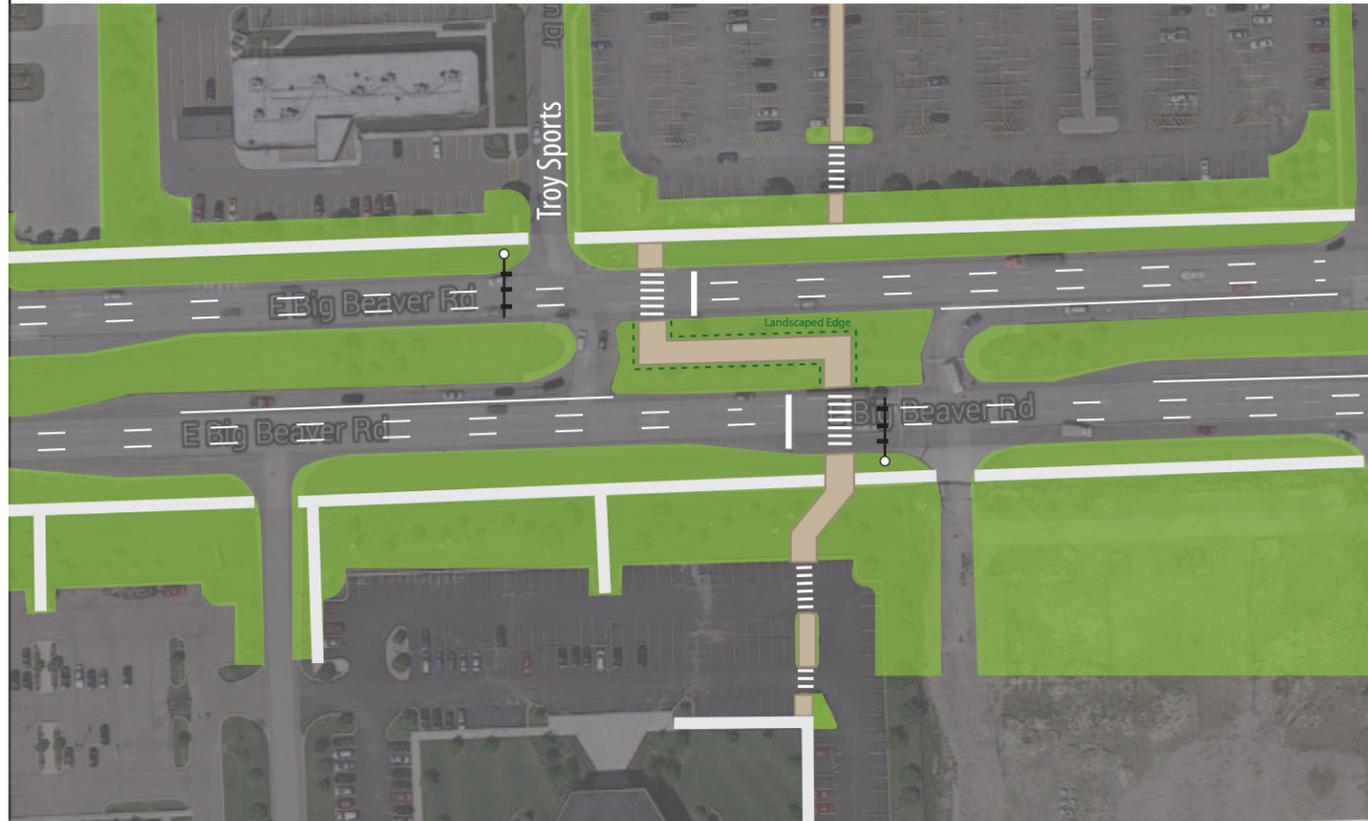
A new mid-block crossing should be installed, approximately 850 ft west of John Road, to allow employees of Automation Alley Smart Zone to easily access Starbucks and the numerous restaurant and retail options on the north side of the street. The crossing should include the following:

- 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

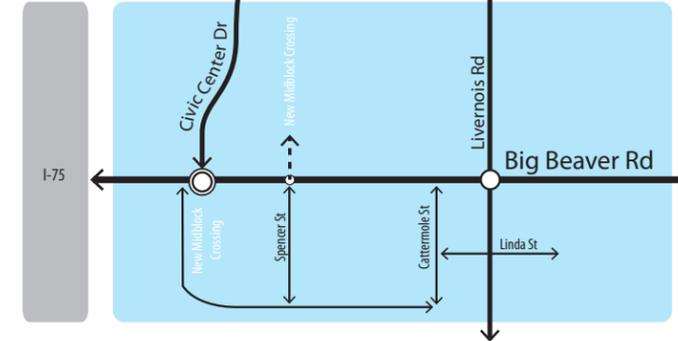


## Short Term

### 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.

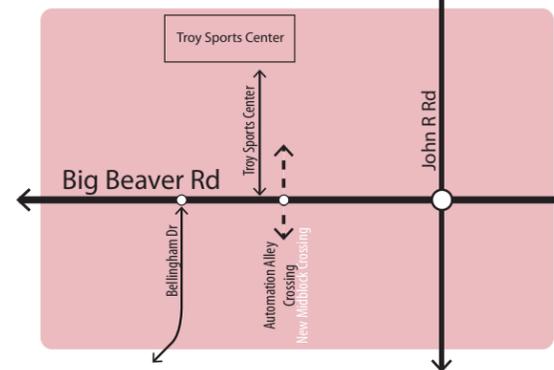
### Civic Center Drive Node



#### 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



#### 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

○ New Midblock Crossing  
 ○ Re-design of existing intersection using Toolbox

### Civic Center Drive Node Reconfiguration



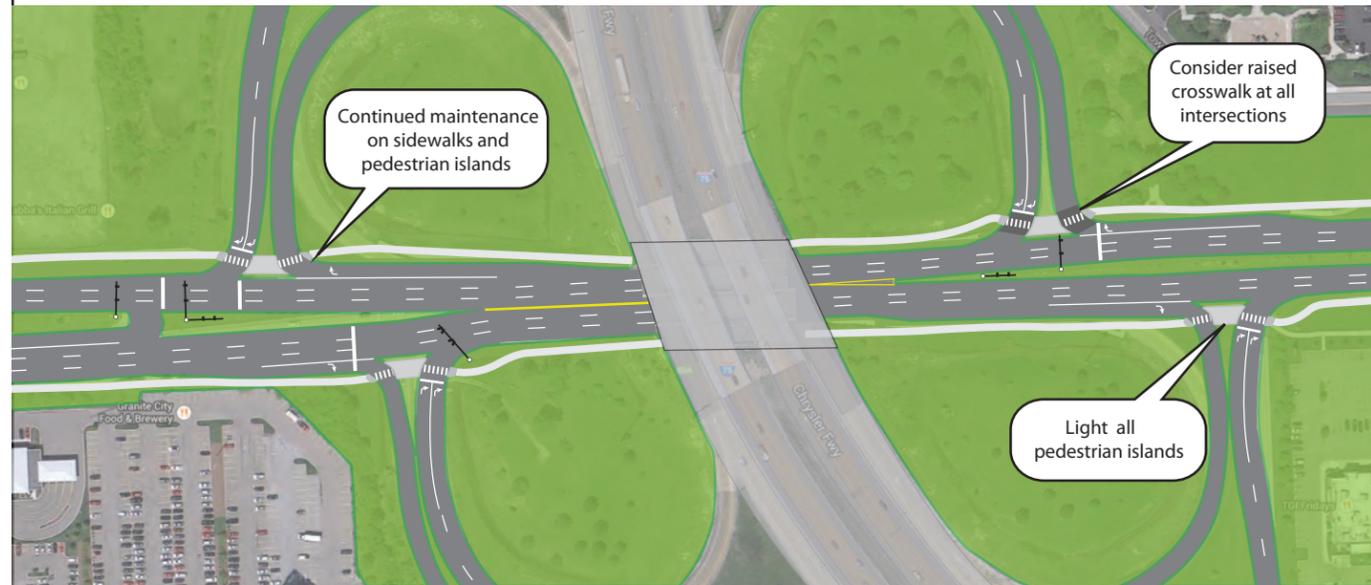
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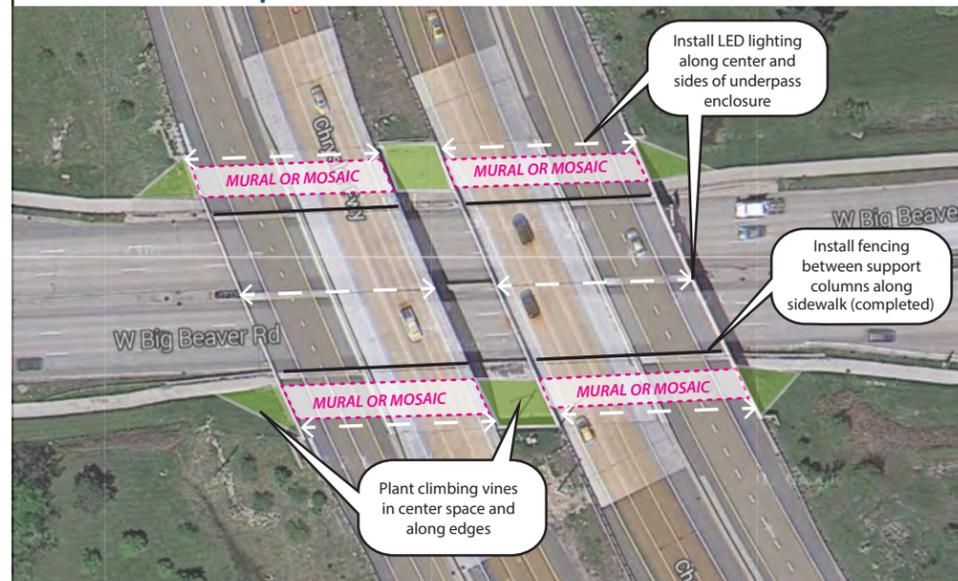
2. Interstate 75

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**

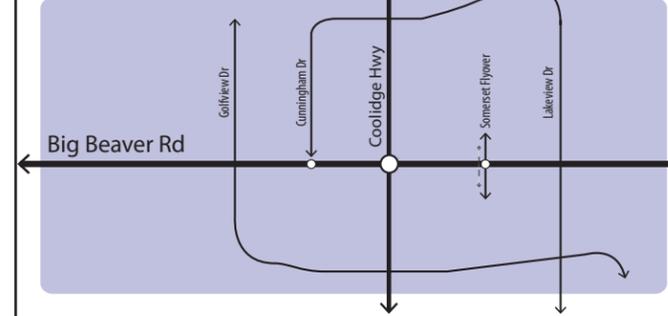
- Pilot a trolley system on the corridor for one summer, a few days a week. Consider partnering with another municipality to share costs.
- Install shelters, benches, and bike racks at all bus stop locations with real-time bus arrival data.

**6. Legal/Ordinance:**

- Consider pursuing a “shared parking lot” development ordinance.

**Long Term**

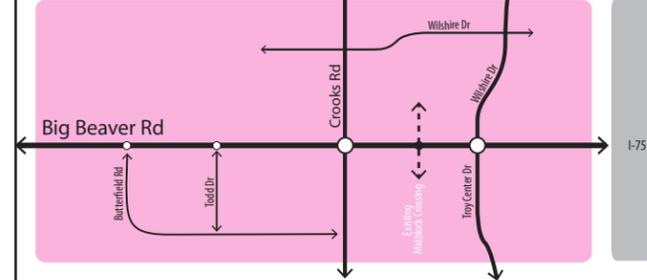
**Coolidge Highway Node**



**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

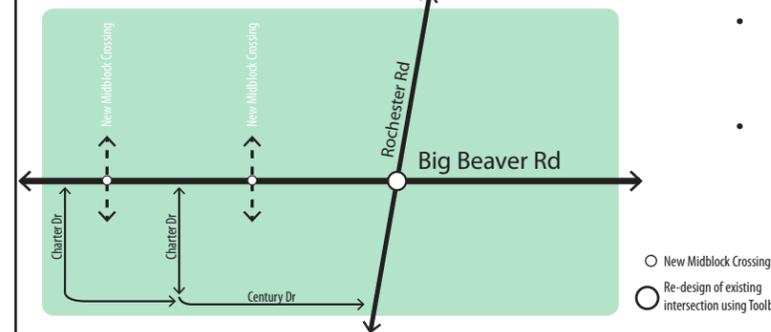
**Crooks Road Node**



**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**



**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:

- Ciclovía: 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.

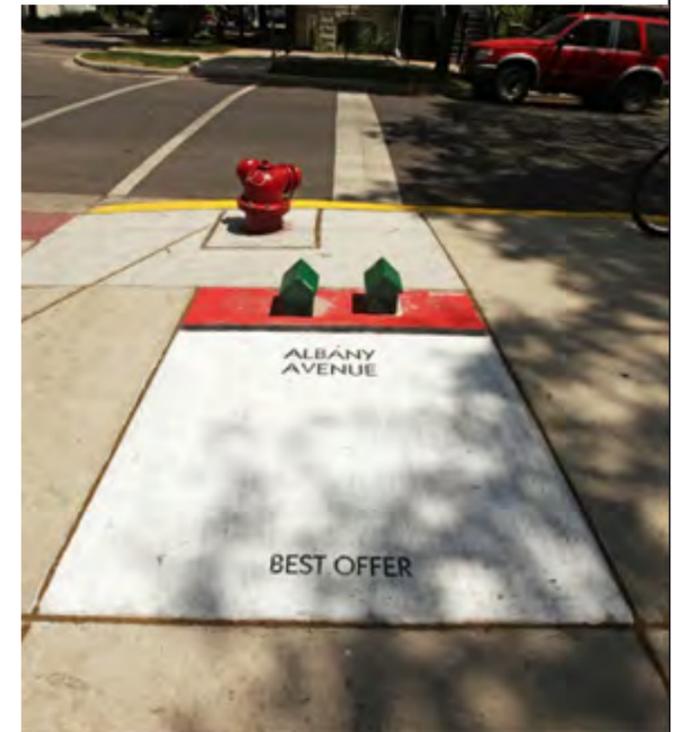
Focus first on the Interstate 75 Underpass. Install a mural or mosaic using vegetation, reflective materials, and lots of color to increase light and comfort walking through the space.

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.