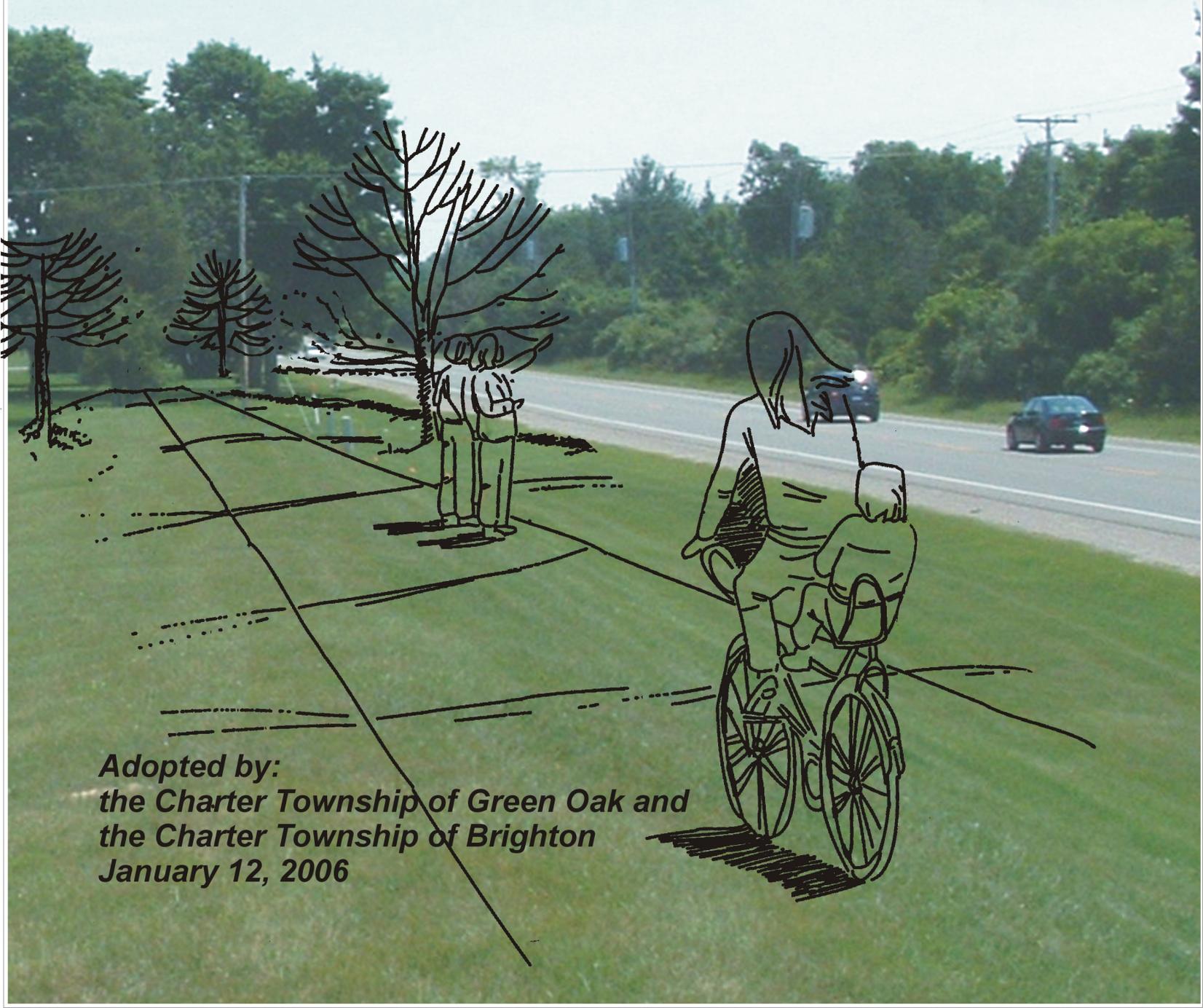


East Grand River Corridor Plan

**East Grand River Corridor Association,
Charter Township of Brighton and
Charter Township of Green Oak
Michigan**



***Adopted by:
the Charter Township of Green Oak and
the Charter Township of Brighton
January 12, 2006***

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Introduction

Future road improvements to I-96 are scheduled for 2008 and traffic will be diverted onto Grand River Avenue. To accommodate this traffic and due to the poor roadway conditions, improvements to East Grand River Avenue have become necessary. Since learning of the scheduled East Grand River Avenue improvements, the East Grand River Corridor Association was formed in 2004 to coordinate potential streetscape improvements for the corridor. Improvements may include landscaping, walkways, lighting, pedestrian amenities, and pedestrian crossing of US-23. A concept plan for the East Grand River Avenue corridor was commissioned from Lindhout and Associates in 2004, but further details need to be provided to the Livingston County Road Commission to be incorporated in their upcoming roadway improvement plans.

The Livingston County Road Commission is planning a five-lane roadway from US-23 to Pleasant Valley Road. A Steering Committee was formed with members from various interest groups to guide the development of the pedestrian and aesthetic design of the corridor. This committee is comprised of Township officials, residents, and business owners and established the following planning goals:

- *To create a pedestrian-friendly environment: a corridor which is attractive to passing motorists, invites people to stop, is pleasant and safe to walk around;*
- *To create a coordinated design theme: a theme which ties the entire corridor together and gives it a unique identity, is clean and simple and instills community pride;*
- *To provide an incentive for private investment: to encourage existing property owners to invest in building renovations, to entice new owners to locate and invest within the corridor and to attract the attention of shoppers and residents both in and outside of the community.*

The process used to generate the East Grand River Corridor Plan consisted of three phases: background study and analysis, conceptual design, and corridor design plan development. Background study and analysis involved gathering map data, and conducting a site analysis to assess opportunities and constraints. Conceptual design included preparing a preliminary design concept for the corridor and seeking public input. The last phase involved development of a corridor design plan that includes cost estimates and implementation strategies.

The following pages describe and illustrate the details of the East Grand River Corridor Plan.

Corridor Analysis

Grand River Avenue has historically been a major transportation corridor linking Lansing to the City of Detroit. The East Grand River Avenue corridor area encompasses a four-mile segment traversing both Brighton and Green Oak Townships and generally running parallel and just south of I-96, from the City of Brighton east to Kensington Road.

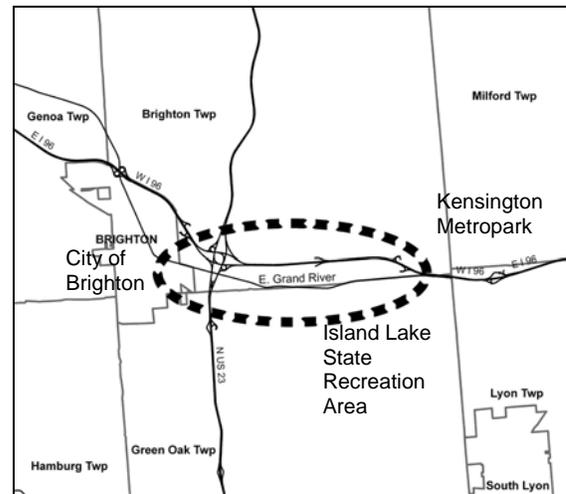


Figure 1. Location Map

Existing Conditions

Grand River Avenue is a five-lane road through the City of Brighton, which narrows to four lanes over the bridges spanning US-23. The road is primarily a two-lane roadway east of US-23, except where turn lanes have been added at specific locations.

Prior to interstate construction, Grand River Avenue served as the main road between Lansing and Detroit. The portion of Grand River Avenue considered in this study now serves as a principal arterial road of substantial importance to the local area and neighboring communities. The corridor contains a diverse range of land uses, including residential, office, commercial, industrial, institutional, and public uses. The corridor also ranges in character from urban to rural. The study area ends at the Island Lake State Recreation Area and near Kensington Metropark.

As shown on the Existing Condition maps on pages 8 and 9, the corridor can be divided into six recognizable segments and three main intersections. The segments are made distinctive by the types of land uses clustered together, by the size and spacing of the buildings, and by the natural features that influence the distribution of the buildings and aesthetics of the segment. The main intersections within the corridor area are: Whitmore Lake Road, Pleasant Valley Road, and Kensington Road. These intersections are the primary points of entry and exit from the corridor for automobiles and locations of high visibility due to the requirement to slow or stop at the traffic signals at each. Each of the segments and intersections is discussed briefly in the following text, from west to east.

Urbanized Segment. This segment of the corridor lies at the western end of the corridor, from the City of Brighton border to the Whitmore Lake Road intersection. The segment contains a dense, but varied array of commercial uses. The buildings are of relatively small scale and placed fairly close to the road with parking between the buildings and road in most cases. There is little landscaping along the road for most of this segment. The sidewalks within the City of Brighton, just outside the study area, are not continued into this segment. The primary opportunity/need appears to be for pedestrian walkways to provide access to the various businesses in the area, and street trees. Trees will provide shade and reduce the excessive openness of the area, providing a visual edge to the roadway and eventually a “ceiling” in the form of tree canopy.



Figure 2. Urbanized Segment

Whitmore Lake Road Intersection. This is a four-way, signalized intersection with turn lanes that receives heavy traffic from all directions. Commercial strip malls surround the intersection on three of its four corners, two with banks on outlots. A real estate office occupying an historic State Police Office building lies in the fourth (northwest) corner. All the properties facing the intersection have parking areas facing the intersection. The strip malls and outlots have some landscaping facing the roads, but the effect is still that of an open, exposed environment. The road rights-of-way at the intersection are fairly large and may provide the opportunity for pedestrian improvements while still observing the required sight triangles and minimum setbacks from the road. As with the Urbanized Segment, street trees would provide shade and help define this space.



Figure 3. Whitmore Lake Road Node

Office/Business Segment. This segment is just to the east of US-23 and the MDOT maintenance garage and extends to a natural break created by the curve in Grand River Avenue around Pickerel Lake and its associated woodlands. The segment is dominated by newer development and includes a variety of office, commercial, and light industrial uses. A few residences are also found within the area in the narrow strip of land between Grand River Avenue and Fonda Lake; substantial residential neighborhoods lie around Fonda Lake to the south as well.



Figure 4. Office/Business

This segment and all other segments to the east, have a two-lane road cross-section except where turn lanes have been added. The buildings tend to be larger and more spaced in this segment than in the urbanized area to the west. There are many large and mature trees along the roadsides some of which shade the road and give it a more enclosed appearance. Some of these trees will, undoubtedly, have to be removed to accommodate the road work and should be replaced by new plantings. Overhead utilities, a narrower right-of-way, and the relatively small setbacks of the residences from Grand River may limit space for a pathway and tree planting on the south side of the road. Ritter's Frozen Custard would seem to be a main pedestrian destination within this segment.

Rural Segment. This segment is a narrow strip along a curve in Grand River pinched between Pickerel Lake and Island Lake. The north side of the road is all upland woodland associated with Pickerel Lake and the south side is occupied by several long-time local businesses that generally provide service to the local residents and the motorists along Grand River Avenue. The buildings are generally close to the road and have



Figure 5. Rural Segment

parking between the building and the roadway, although some of the parking appears to be within the Grand River Avenue right-of-way and may have to be removed as part of the roadwork. Several of the businesses in this area are already pedestrian destinations for the residential neighborhoods around Fonda, Island, and Briggs Lakes, although pedestrian access is not currently as safe or convenient as it could be. The curve in the road and wooded slopes on the north side of the road may limit sight distances and therefore the opportunity for a crosswalk along this segment of the corridor.

Rural Residential Segment. This segment of the corridor lies along the north side of Briggs Lake to the intersection with Pleasant Valley Road. The land uses in this area are almost entirely residential in character. The area contains single-family residences around Briggs Lake, a motel, apartments, the Woodruff Lake Co-op, and two condominium developments currently under construction. This is the only pocket of multi-family residential within the study area and represents a significant



Figure 6. Rural Residential Segment

concentration of residents who are likely to benefit the most from pedestrian improvements.

Pleasant Valley Road Intersection.

This is presently a three-way intersection with left turn lanes and controlled by a flashing yellow light. The intersection has three commercial/ service uses and a residence concentrated around the intersection and surrounded by natural features that isolate the area from the adjacent segments. This apparent isolation is enhanced by the fact that the intersection is at a low point in the terrain. The restaurant and service station at this



Figure 7. Pleasant Valley Road Node

intersection and its location near the center of the corridor make it a potential location for a pedestrian area or node. Moreover, the proximity of the Island Lake State Recreation Area to the road in this area makes a pedestrian connection from the corridor into the park possible.

Office/Light Industrial Segment.

This segment lies between the intersection with Pleasant Valley Road and a large area of low-lying woodlands and wetlands to the east. This segment contains a handful of light industrial uses and is limited by the surrounding natural features and public/institutional land of the Island Lake State Recreation Area and Fonda, Island, and Briggs Lake Joint Water Authority. The buildings tend to be larger in size, with moderate setbacks from the road. The western portion of this segment is relatively open with the front yards cleared of most vegetation other than lawn, but becomes more closed and wooded to the east toward the wetlands.



Figure 8. Office/Light Industrial Segment

Light Industrial Segment. This segment is located immediately west of the Kensington Road intersection. It contains Brighton Hospital and some residential uses, but is dominated by medium to large scale light industrial uses, particularly the Delphi and Cor-Met facilities. Grand River has right-turn passing lanes through portions of this segment to accommodate turning traffic to these facilities. Proximity of Kensington Road is central to the viability of this segment and the Office/ Industrial Segment discussed previously. The proximity to the State Recreation Area and Kensington Metropark also makes this area relatively well traveled.



Figure 9. Light Industrial Segment

The large setbacks of the industrial and institutional buildings in this area allow plenty of room for pedestrian pathways and other improvements along the road to provide access to the parks.

Kensington Road Intersection.

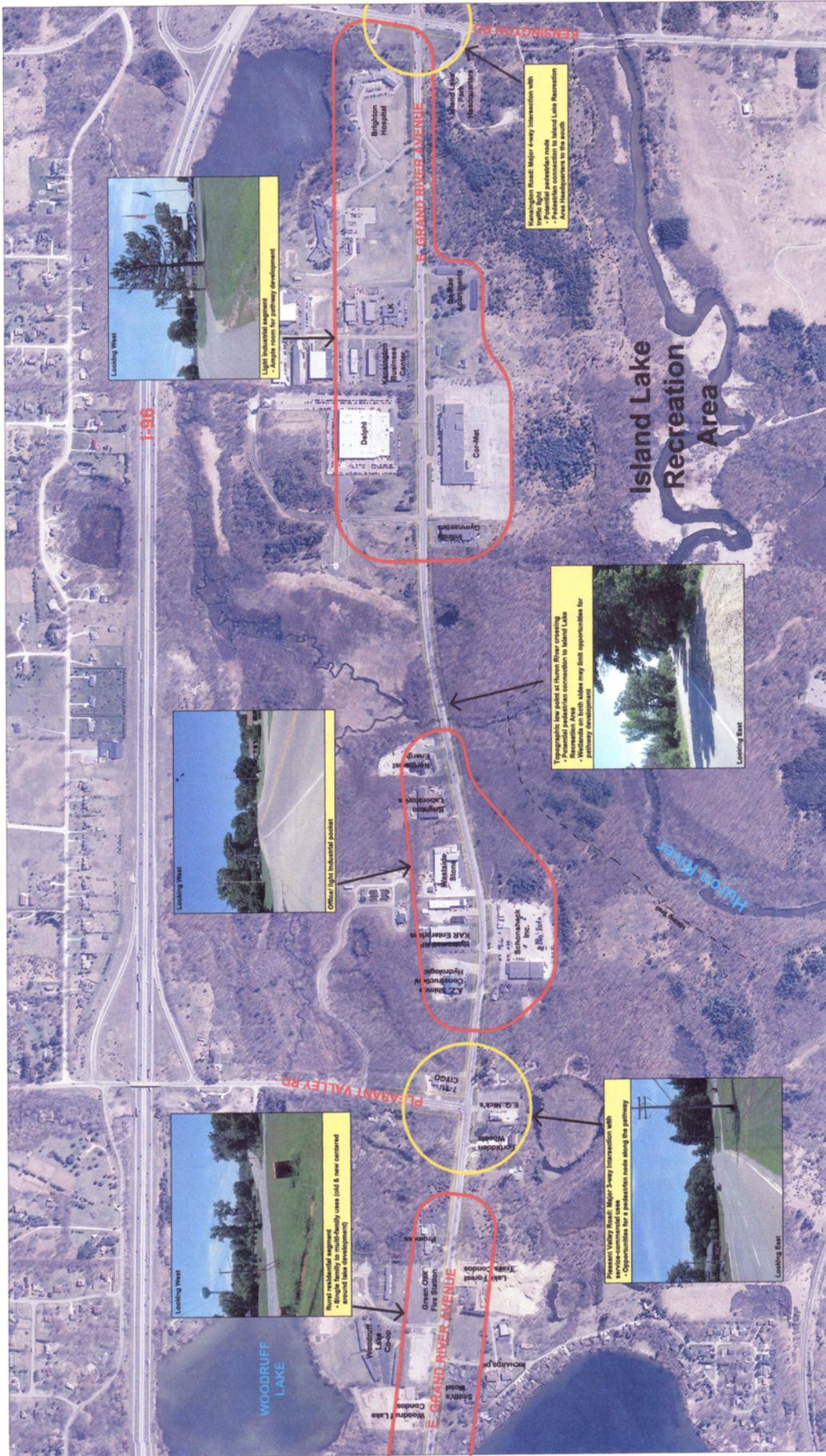
This is a four-way, signalized intersection with turn lanes. The intersection is surrounded by open and wooded land on all four corners and is relatively rural in appearance. While the intersection with Whitmore Lake Road is the urban entry into the corridor, Kensington is the rural entry. As with the other intersections, this should be considered as another potential pedestrian node with some pedestrian improvements. In addition, providing a pedestrian



Figure 10. Kensington Road Node

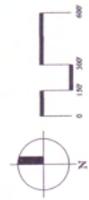
connection to the Island Lake State Recreation Area Headquarters to the south is desirable, since the park is a likely pedestrian destination. Future connection to Kensington Metropark to the northeast is also desirable.

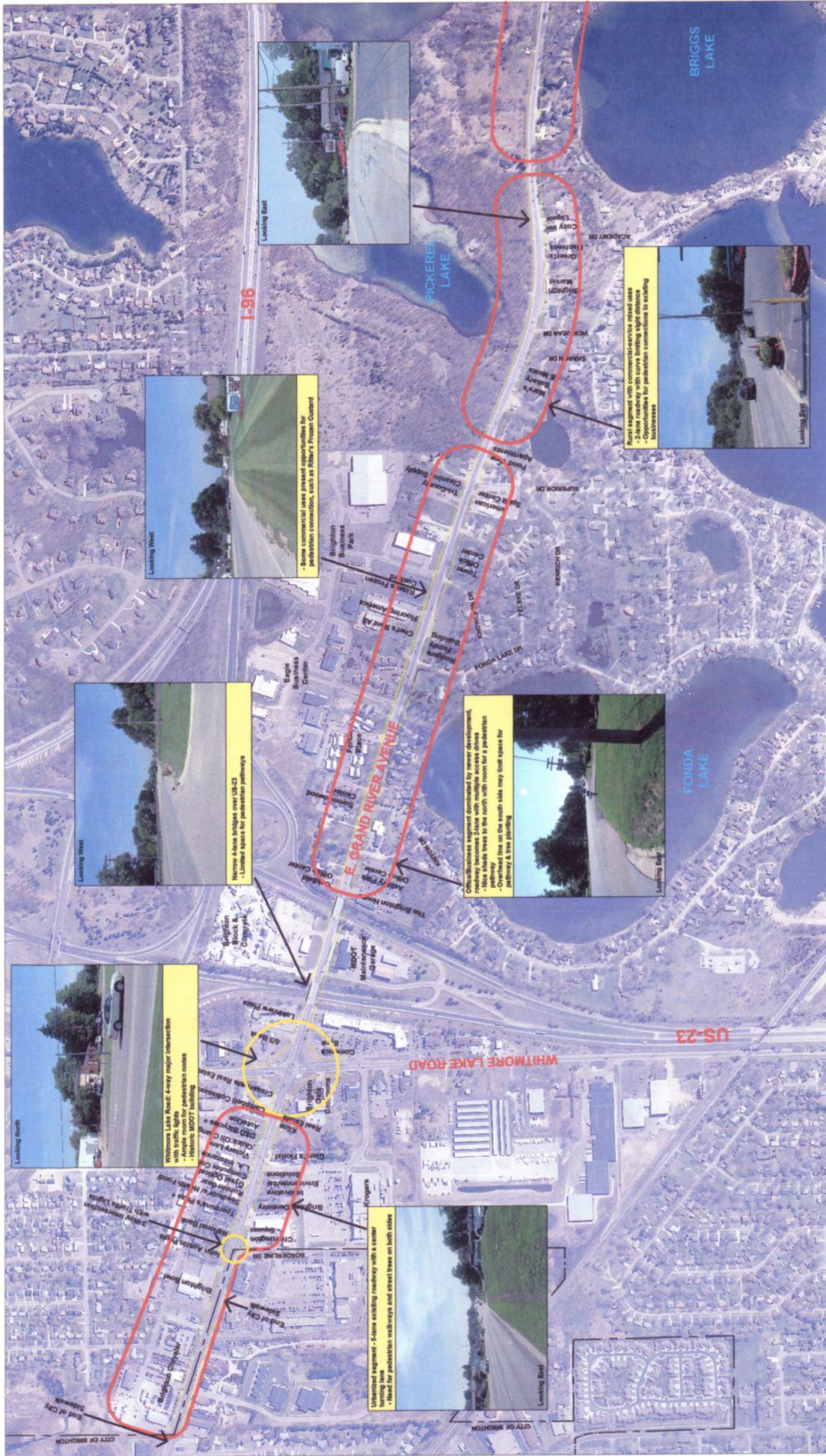
Land uses, appearance, and urban or rural character of the corridor vary greatly across its four-mile length. Therefore, unifying design elements will become important to knitting it together visually as a single entity. While the segments and intersections within the corridor are distinct in character and geography, each includes some elements that could attract pedestrians and increase pedestrian use. As currently configured, the corridor is neither safe nor convenient for pedestrian use and thus current usage by pedestrians is limited. A change in the infrastructure and aesthetics of a road corridor can lead to a change in the perception of the corridor and the patterns of usage by motorists and pedestrians alike.



EXISTING CONDITIONS EAST GRAND RIVER CORRIDOR

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EXISTING CONDITIONS EAST GRAND RIVER CORRIDOR

Whitmore Lake Road: Arroyo major intersection with traffic lights and pedestrian crossings
 - Historic, IDOT building

Unimproved segment: 2-lane existing roadway with a center turning lane
 - Need for pedestrian walkways and street trees on both sides

Some commercial uses present opportunities for pedestrian connection, such as Ritter's Prozen Center

Office/business segment dominated by newer development, roadway becomes 2-lane with multiple access drives
 - Overhead line on the south side may limit space for pathway & tree planting

Rural segment into commercial/service mixed uses
 - Opportunities for pedestrian connections to existing businesses

Institutional Considerations

Future pedestrian improvements to Grand River Avenue will be subject to certain State and local regulations. A summary of the pertinent legislation and their regulatory effect is listed as follows:

Land and Water Management Division, MDEQ. (Part 303, Wetland Protection, of the Natural Resources and Environmental Protection Act, 1994 PA 451) Permits are required from the Land and Water Management Division for any construction activities in a regulated wetland.

Livingston County Road Commission. The pedestrian improvements for the Road Corridor must be reviewed and approved by the Road Commission. Pertinent guidelines include maintaining a clear vision triangle:

No trees or plant materials greater than two feet are permitted within sight distance triangles at driveways and street intersections (the triangle is measured in the following manner: 10 to 15 feet from the outer edge of Grand River Avenue in the centerline of the approach or appropriate traffic lane of the road, and 375 to 725 feet from that line in the centerline of the nearest oncoming traffic lane on Grand River Avenue, depending on whether the approach serves a residential dwelling, a commercial use, or another roadway).

Soil Erosion and Sedimentation Control. (Part 91, 1994 PA 451) This Act requires erosion control measures for earth change activities. Permit from county and/or local enforcement agency is required.

Public Input

On August 24, 2005, a workshop focusing on the corridor improvements was held at Green Oak Township Hall. Approximately 35 individuals representing various interests, organizations, and businesses in the community discussed the future of the Grand River Corridor.

Following a brief presentation on the existing conditions found in the corridor and the possibilities for future improvements, participants were divided into three groups of about ten people. Each group was monitored by a facilitator to record statements, and to generate and guide discussion. Each group generated ideas regarding the corridor improvements. Following this, the larger group reconvened and each group presented its respective issues. The following lists all the issues by group.

Group 1:

- Add landscaping around the Grand River Avenue pump house.
- Question of 5-lane versus 3-lane roadway improvement. Is a 5-lane roadway really needed?
- Questions of funding. Will a special assessment be required?
- Preserve existing trees. The corridor contains many mature trees.
- Speed of traffic (55mph) not pedestrian friendly.
- Limit stormwater run-off into lake. Will wider road degrade water quality?
- Corridor improvements are long overdue.
- Preserve the existing rural atmosphere.
- Use pedestrian activated signals at key crossing points.
- Bury utilities especially overhead electric lines.

Group 2:

- Concerns regarding safety.
- Need for more crosswalks: at Kinyon Drive, at Knowlson (where, it is believed, a traffic light is proposed), and at Academy Drive (instead of in front of Marv's).
- Consider changing the computerized traffic light at Whitmore Lake Road for pedestrian crossing.
- Limit the use of streetlights to strategic areas.
- Use traffic calming techniques such as inlaid pavers to slow traffic.
- Meander the pathway for interest through the acquisition of easements.
- Bury utilities.
- Concerns regarding stormwater drainage.
- Add landscaping on the south side of the corridor.
- Consider using this opportunity to accurately survey and record utility locations.

Group 3:

- Potential connection to Island Lake Recreation Area can be accomplished off dirt road south of Grand River Avenue instead of by the creek.
- Need for a traffic signal at Pleasant Valley Road.
- Need for a traffic signal at Citation.
- Opportunity for a pedestrian area on the vacant property next to Marv's.
- Establish an overlay district for the corridor to deal with setbacks, signage, and landscaping issues.
- Bury utilities, existing and new.

Needs and Opportunities

This study has revealed many needs and opportunities for expanding the pedestrian amenities along the East Grand River Avenue Corridor. Based on the analysis of existing conditions, institutional considerations, and input received from the public, the following needs and opportunities were identified:

1. Because several of the parcels along the roadway are undeveloped and as redevelopment of other parcels occurs, some of the corridor improvements can be incorporated into future plans for these parcels.
2. There are no pedestrian amenities currently in place along the corridor. This allows for installation of the new features all down the corridor, creating a cohesive design and bringing together the different developments along the roadway.
3. Pedestrian safety along the corridor and at crossings will have to be carefully examined in the design plan.
4. At certain locations, the right-of-way will potentially only accommodate the roadway improvements. In those locations, it may become necessary to acquire easements to install the pathways and street trees along the corridor.
5. Because of limited space and cost, pedestrian movement should be restricted to one side of the roadway. This is true for most of the corridor with the exception of the urbanized segment where concrete walkways could be extended from the City boundaries to Whitmore Lake Road. Given the greater amount of developments and residents, the segment of corridor from Whitmore Lake Road to Academy Drive would also benefit from pathways on both sides of the roadway.
6. Pedestrian crossings and connections are seen as necessary to the vitality of the corridor in order to facilitate pedestrian access from existing neighborhoods and office/commercial uses to the proposed pedestrian movement along the corridor.
7. Pedestrian crossings should be located at major intersections where vehicular traffic currently stops or slows down. This would include Whitmore Lake Road, Pleasant Valley Road, and Kensington Road. There is also a need to create crosswalks at other locations along the corridor to connect the residents and businesses to the pathway.
8. Crossings offer the opportunity for the development of pedestrian areas or nodes including pedestrian amenities such as benches, decorative lighting, and landscaping.

Corridor Plan

Goals and Objectives

Through the information garnered during the analysis of the corridor, including the public workshop, goals and objectives have been formulated to improve the overall quality of the East Grand River Corridor. These goals and objectives provide a basis from which decisions can be made and should be considered in relation to all new development proposals within the East Grand River Corridor.

Goal 1: Provide pedestrian access along Grand River Avenue.

Objectives:

1. Extend and connect sidewalks from the City of Brighton to Whitmore Lake Road.
2. Construct a pedestrian path along both sides of East Grand River Avenue from Whitmore Lake Road to Academy Drive.
3. Construct a pedestrian path along the north side of East Grand River Avenue from Academy Drive to Kensington Road.
4. Provide pedestrian connections from office buildings, businesses, and residential developments along the Corridor to the pathways along Grand River Avenue.

Goal 2: Enhance the overall appearance and character of the East Grand River Corridor.

Objectives:

1. Reduce overhead utilities along the south side of the roadway.
2. Develop pedestrian areas or nodes at key intersections within the corridor that include distinctive landscape treatments and unifying design features such as pedestrian amenities and decorative lighting.

Goal 3: Improve pedestrian and vehicular access and circulation along Grand River Avenue.

Objectives:

1. Ensure safe and efficient access to all properties along Grand River Avenue.
2. Consolidate driveways where possible and promote shared access drives and parking where possible.
3. Minimize, as much as possible, the traffic noise coming from Grand River Avenue.
4. Promote pedestrian safety through the design of safe crosswalks.

Goal 4: Formulate development guidelines for the East Grand River Corridor based on the mixed-use corridor overlay guidelines already in place for Brighton Township.

Objectives:

1. Promote guidelines that tie together the various industrial, commercial, office, and residential land uses within the corridor.
2. Create site design guidelines that encourage high quality and consistent architectural, site layout, signage, and landscape designs.

Corridor Recommendations

Recommendations for land use, circulation and parking, open space and landscaping, architectural design, and stormwater management have been developed for the Corridor in order to achieve the goals and objectives identified during the planning process.

Land Use

A goal of the Plan is to formulate development guidelines for properties along the East Grand River Corridor. These guidelines can be developed by expanding the mixed-use corridor overlay guidelines planned for Brighton Township. The following amendments to Brighton and Green Oak Township Master Plans and Zoning Ordinances are recommended:

- Consider a mixed-use overlay district for all properties adjoining the Corridor from the City of Brighton boundary to Kensington Road, bounded to the North by I-96 and to the south by all properties having frontage onto Grand River Avenue with the exception of Island Lake State Recreation Area.
- Allow a variety of uses including single and multiple-family residential, local or neighborhood commercial, office, light industrial uses, parks and open space/conservation, and institutional uses.
- Adopt guidelines based on the recommendations formulated below which will provide pedestrian access, enhance the appearance, and improve access management.

Circulation and Parking

Another goal of the Corridor Plan is to improve circulation throughout Grand River Avenue, both vehicular and pedestrian. This can be accomplished through the following:

- Locate off-street parking to the side or rear of buildings.
- Break up large expanses of pavement with landscaping.
- Limit access drives from Grand River Avenue and encourage shared service drives and shared parking areas.
- Screen parking lot abutting Grand River Avenue, pedestrian routes, and residential areas with landscaping, a wall, fence, or berm.
- Develop a continuous pedestrian pathway through the corridor.
- Provide pedestrian connections from building entrances to parking lots, pathways, and neighboring businesses.
- Provide safe pedestrian crossings at Whitmore Lake Road, Pleasant Valley Road, and Kensington Road with advance warning signs, variation of materials such as stamped concrete or asphalt if feasible, or appropriate striping, and pedestrian refuge islands, if feasible, in the roadway.

Open Space and Landscaping

A main goal of the Plan is to create a pedestrian-friendly environment along the Corridor and enhance its overall appearance and character. The following improvements should provide more open space and improve landscaping along Grand River Avenue.

- Create pedestrian areas or nodes at major intersections including Whitmore Lake Road, Pleasant Valley Road, and Kensington Road, to strengthen pedestrian connections throughout the Corridor. A combination of landscaping, lighting and pedestrian amenities such as benches are recommended to enhance the pedestrian atmosphere at these key intersections along Grand River Avenue.
- Create pedestrian areas within residential, commercial, office, or industrial developments such as plazas with pedestrian amenities and connected to walkways and pathways.
- Preserve, as much as possible, the existing mature shade trees along the Corridor.
- Preserve existing woodlands, wetlands, lakes, and streams.
- Incorporate the natural features along the Corridor into the site design.
- Install entry signs, banners, and native, drought tolerant landscaping to enhance the overall appearance and character of the Grand River Avenue Corridor.

Architectural Design

Quality architectural design relates to siting the building as well as the building materials and façade treatments.

- Buildings that are visible to the public should incorporate materials, details, and building design components that project a high quality image for the Corridor.
- Buildings that have long facades or sides should break the expanse of the wall with the use of recesses and architectural details.

Stormwater Management

Another goal of the Corridor Plan is to improve stormwater management. With the presence of lakes, the Huron River, and associated wetlands, stormwater run-off should be managed in accordance with best management practices.

- Preserve and do not disturb wetlands.
- Design stormwater detention systems in accordance with the Livingston County Drain Commissioner's rules.
- Implement best management practices such as sediment basins, rain gardens, and filter strips to help filter sediments and pollutants from stormwater run-off.

Design Plan and Features

The Livingston County Road Commission proposes to develop a five-lane roadway from US-23 to Pleasant Valley Road. The Corridor Plan proposes pedestrian pathways along the roadway, as well as landscaping, pedestrian areas and amenities. Landscaping with shade trees, shrubs, and perennials is proposed to add interest, increase safety, and provide relief for pedestrians. Pedestrian amenities incorporating benches and decorative lighting are proposed in pedestrian areas located at major road intersections.

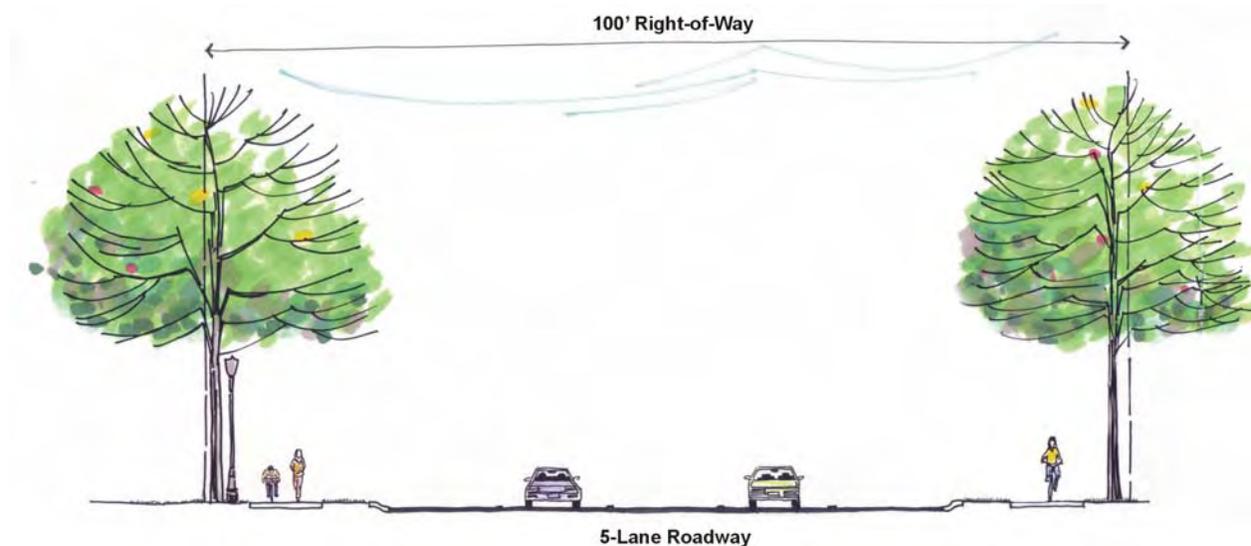
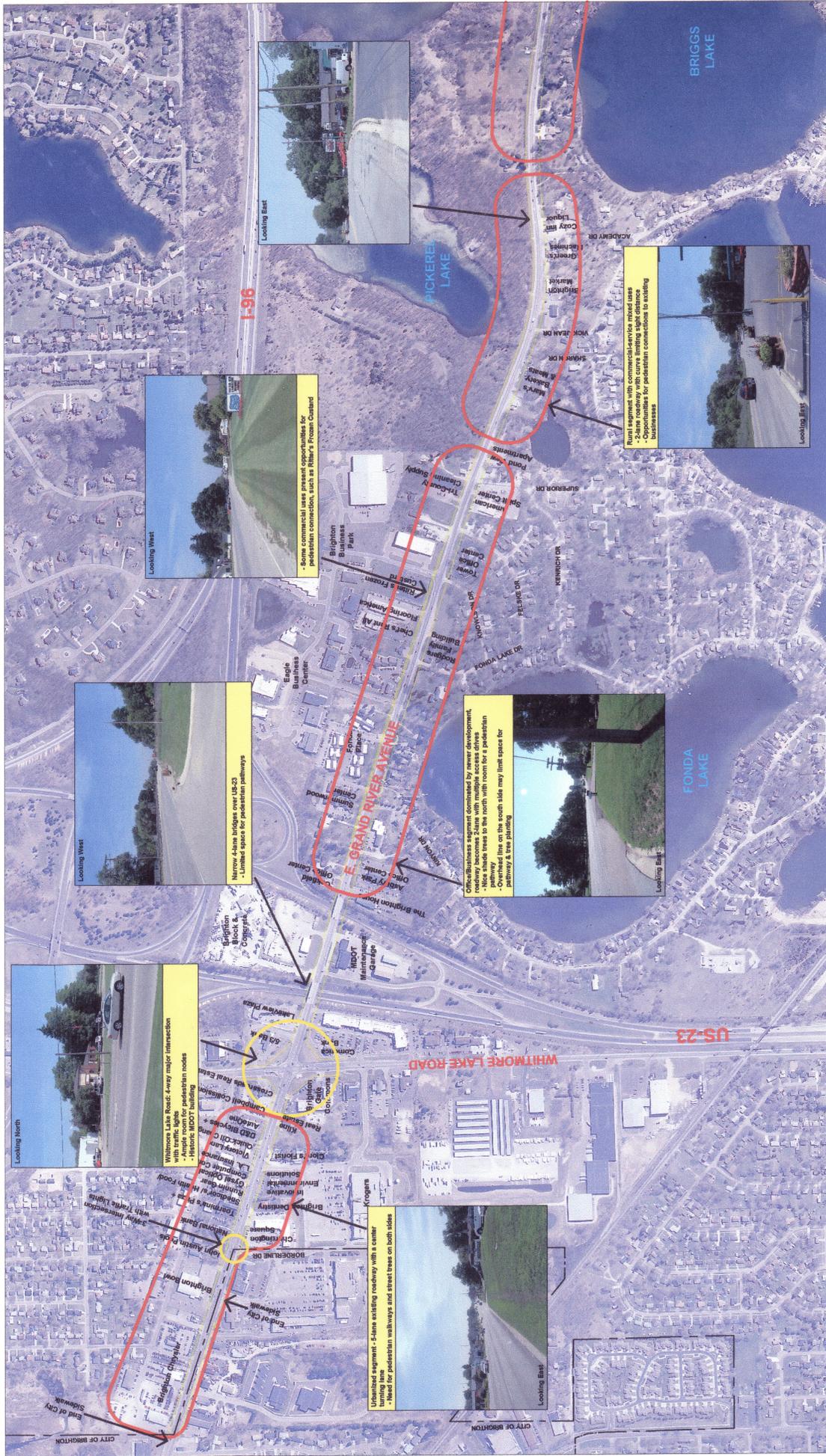


Figure 13. Proposed Corridor Cross Section

The Corridor Plan is illustrated in the next pages and the design features are described in greater detail in the following narrative.



Whitmore Lake Road: 4-way major intersection with traffic lights and pedestrian nodes
 - Historic, IDOT building

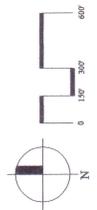
Unutilized segment: 2-lane existing roadway with a center turning lane
 - Need for pedestrian walkways and street trees on both sides

Some commercial uses present opportunities for pedestrian connection, such as Ritter's Frozen Custard

Office/business segment dominated by newer development; roadway becomes 2-lane with multiple access drives
 - Overhead line on the south side may limit space for pathway & tree planting

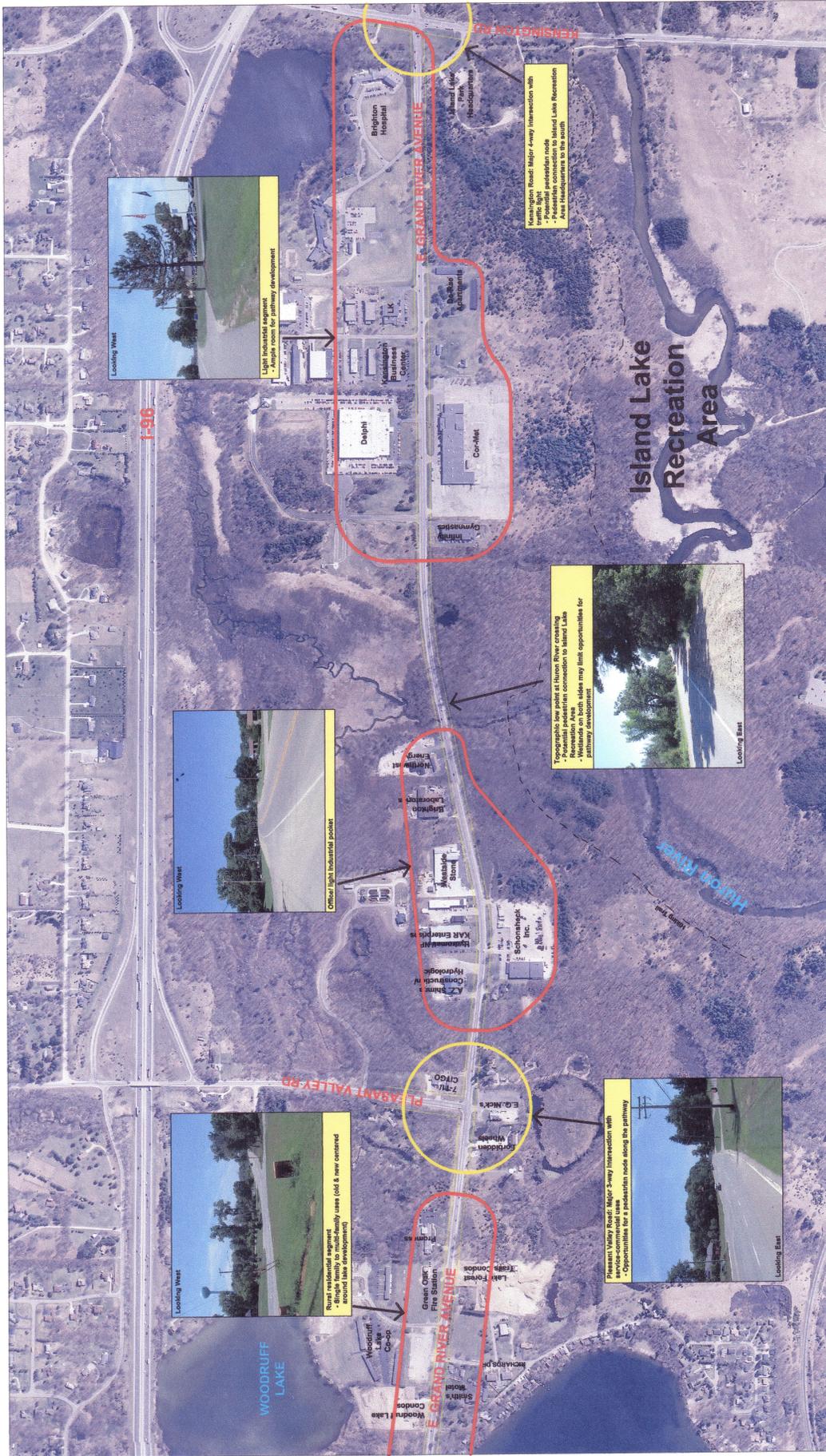
Rural segment with commercial/service mixed uses
 - Opportunities for pedestrian connections to existing businesses

EXISTING CONDITIONS EAST GRAND RIVER CORRIDOR



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EXISTING CONDITIONS EAST GRAND RIVER CORRIDOR

Pedestrian Pathways

The Design Plan for the corridor proposes pathways that are eight feet wide surfaced with asphalt and located on both sides of the roadway for a portion of the corridor. The pathways should meander to offer interest, as feasible. Separation from the roadway by landscaping would be beneficial to separate vehicular and pedestrian uses, increase safety, reduce the impact of traffic noise, and enhance the pedestrian experience.

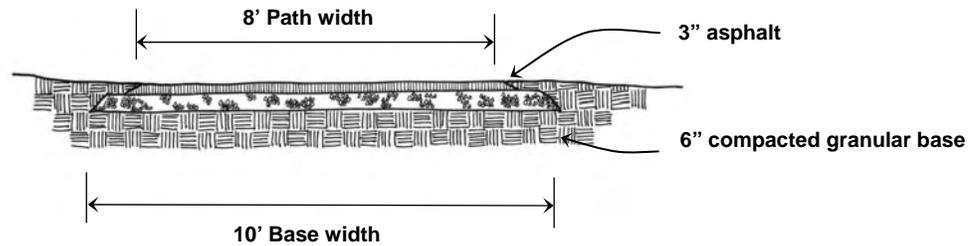


Figure 16. Pathway Cross-Section

Because the existing road right-of-way is so narrow (100 feet), and because the proposed road improvements will take place within this existing right-of-way, easements, up to 10 to 15 feet in some instances, may need to be acquired to accommodate the pathways and some of the pedestrian improvements.

Pedestrian Crosswalks

Pedestrian crossings are proposed at major intersections including Whitmore Lake Road, Academy Drive, Pleasant Valley Road, and Kensington Road. Pavement at these crosswalks may be textured or marked with pavement markings. The different texture and color in the pavement will signify a change from vehicular to pedestrian use and are used to increase pedestrian safety. A pedestrian refuge island is also proposed where there is enough space to be accommodated. The following pictures illustrate the recommended treatments at crosswalks.

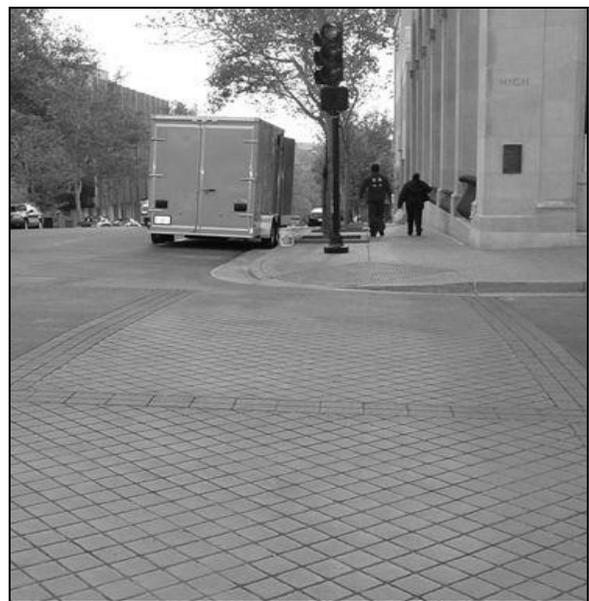


Figure 17. Stamped Asphalt Pavement at Crosswalk

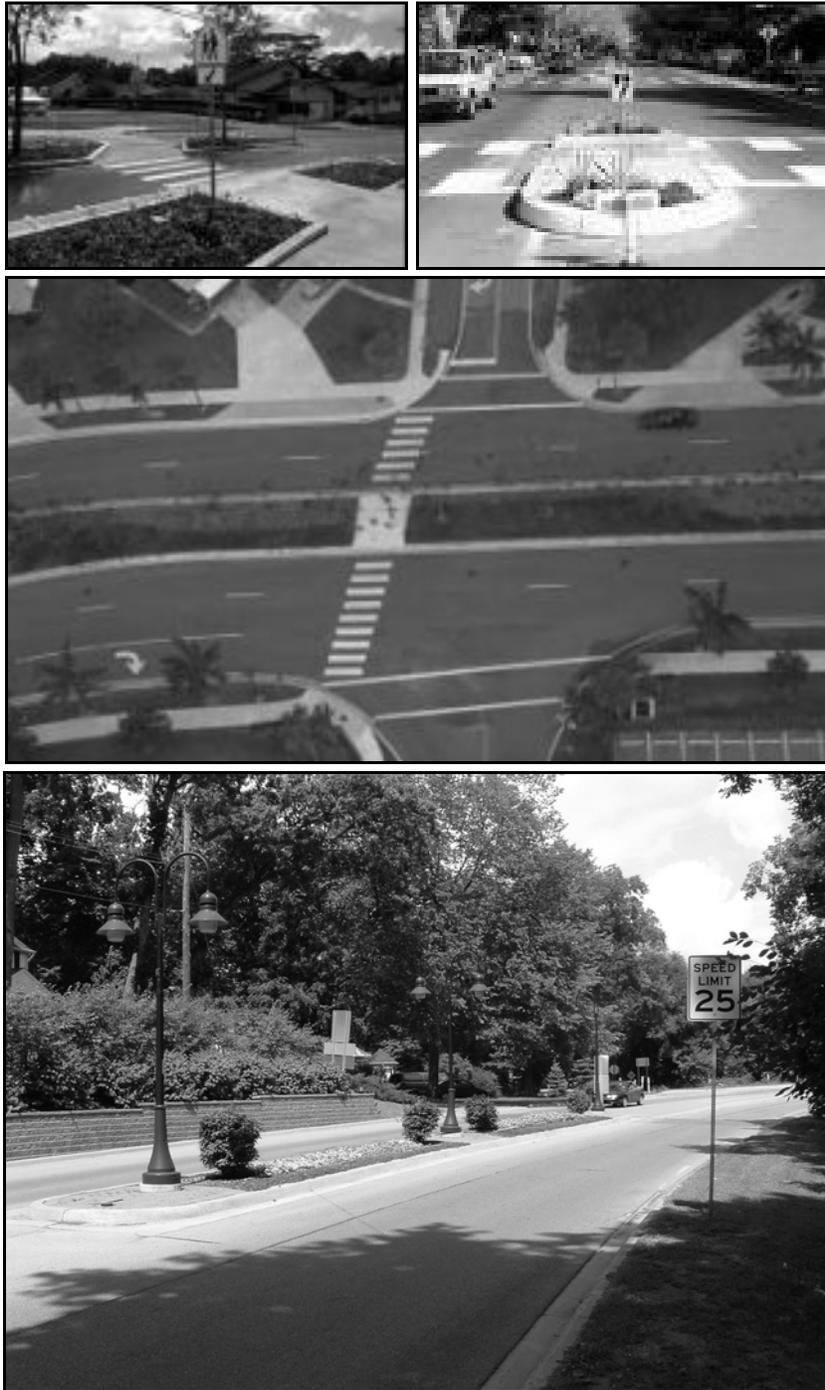


Figure 18. Pedestrian Refuge Islands at Crosswalks

Most pedestrian crossings occur at intersections which include or will probably include traffic lights. However, since Academy Drive does not have a traffic light, a pedestrian activated light is proposed at that location for safety reasons.



Figure 19. Pedestrian Activated Signal

Conceptual designs and treatment of the intersections are offered in the following pages. They include the location of pathways, crosswalks, and pedestrian areas or nodes.



Pleasant Valley Road

Safe crosswalks with pavement markings

Pedestrian node with landscaping, pedestrian lighting, benches & bike rack

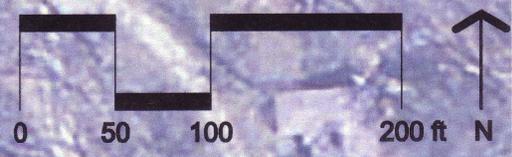
8'-10' wide paved pathway on north side

Grand River Avenue

5-lane proposed roadway

**Intersection Design
Pleasant Valley Road/Grand River Avenue**

East Grand River Corridor Plan



December 2005



Safe crosswalk with pavement markings

8'-10' wide paved pathway on north and south sides

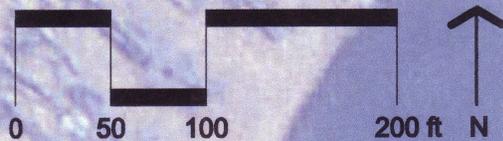
Grand River Avenue

Academy Drive

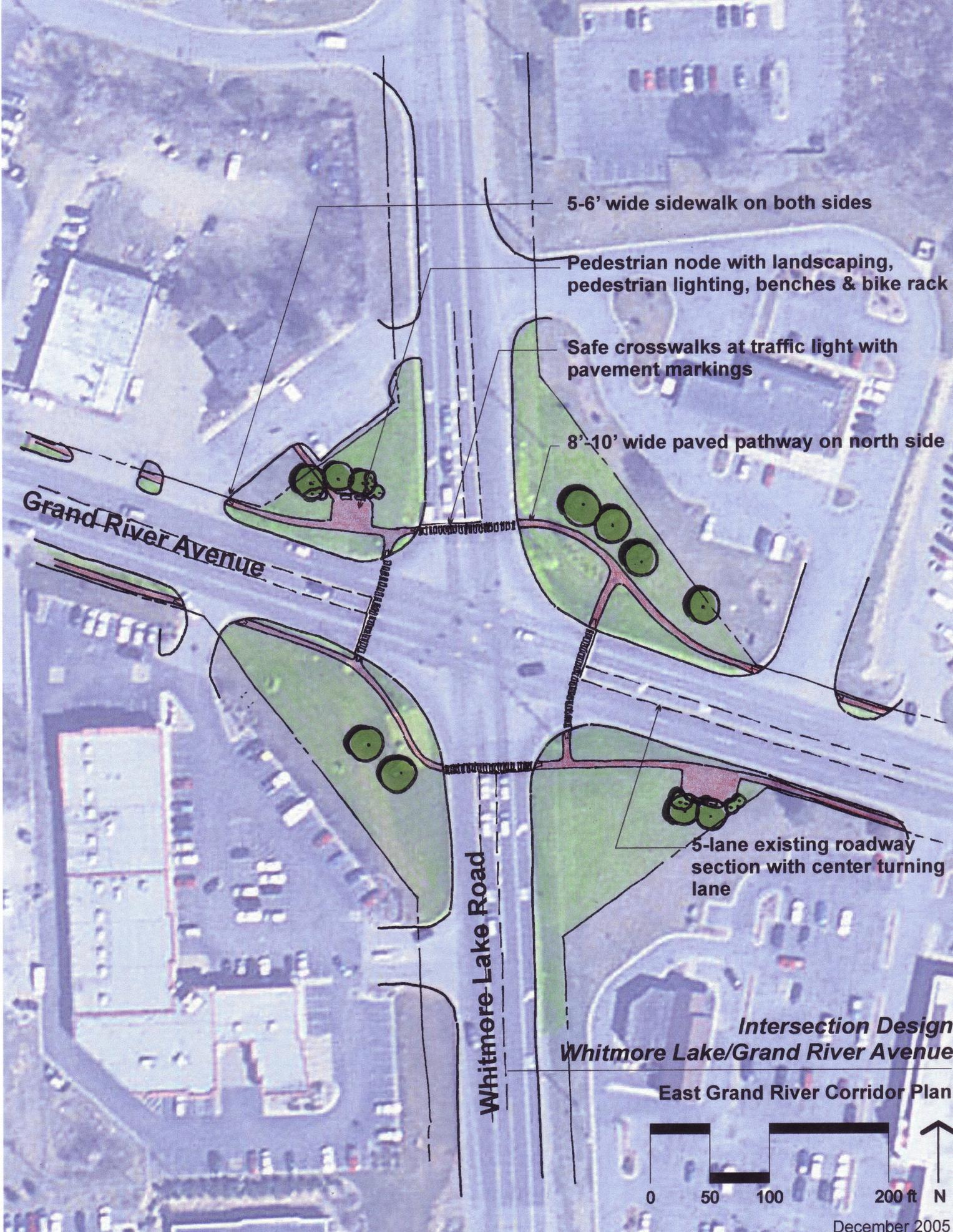
5-lane proposed roadway section with center turning lane

**Intersection Design
Academy Drive/Grand River Avenue**

East Grand River Corridor Plan



December 2005



5-6' wide sidewalk on both sides

Pedestrian node with landscaping, pedestrian lighting, benches & bike rack

Safe crosswalks at traffic light with pavement markings

8'-10' wide paved pathway on north side

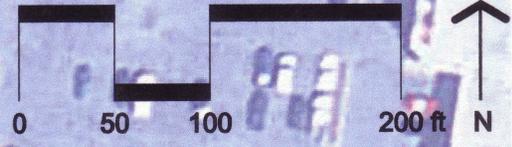
Grand River Avenue

Whitmore Lake Road

5-lane existing roadway section with center turning lane

**Intersection Design
Whitmore Lake/Grand River Avenue**

East Grand River Corridor Plan



December 2005

Future pedestrian connection to Kensington Metropark

Safe crosswalks at traffic light with pavement markings

Pedestrian node with landscaping, pedestrian lighting & signage

8'-10' wide paved pathway on north side

Grand River Avenue

Existing roadway

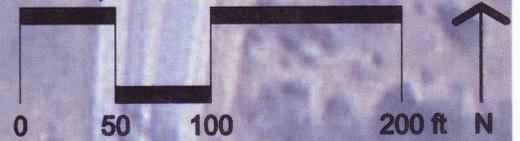
Pedestrian connection to Island Lake Recreation Area

Island Lake Recreation Area Headquarters

Kensington Road

**Intersection Design
Kensington Road/Grand River Avenue**

East Grand River Corridor Plan



December 2005

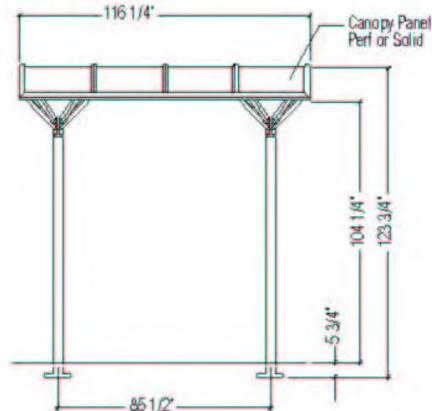
Pedestrian Amenities

Site furnishings are proposed for each pedestrian area and road intersection and include benches under canopies on a paved area with a backdrop of trees and shrubs.

A canopy is proposed at Whitmore Lake Road and at Pleasant Valley Road. It is the Kaleidoscope offset canopy structure, straight or curved, made of steel and finished in black as manufactured by Landscape Forms (Landscape Forms, 800-521-2546).



Straight Centered Canopy



Curved Outside Offset Canopy

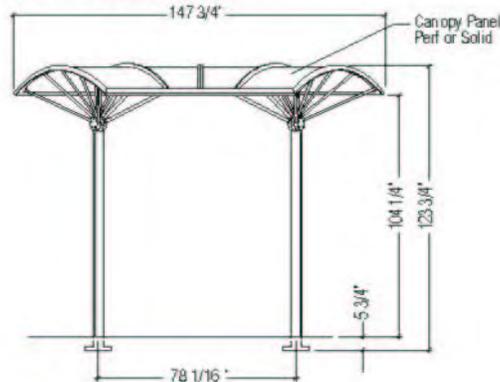


Figure 24. Canopy Structure

Benches are proposed to fit under the canopy and to stand alone at key locations. The proposed bench is the Plainwell bench, 72 inches in length, with an aluminum seat, grotto powder coat finish, and without center or intermediate arms as manufactured by Landscape Forms (Landscape Forms, 800-521-2546).



Figure 25. Bench

Landscaping

Landscaping of the corridor is proposed to include large shade trees, small flowering trees, shrubs, and perennials. The shrubs and perennials are located at key locations within pedestrian refuge islands and pedestrian crossings. The landscape design of the corridor needs to take into account the requirements of the Livingston County Road Commission for vision clearance as well as distance from the roadway. As indicated previously, plants should not greater than two feet within a vision triangle at road and driveway intersections. This triangle varies whether it is a roadway or driveway and also depending on the land uses being served.

The plant materials in Table 1 are preferred as they are mostly native and drought tolerant species.

Table 1. Plant List

Botanical Name	Common Name	Size and Spacing
Shade Trees		
<i>Acer rubrum</i>	Red Maple	Shade trees should be of various sizes from 1-½” to 3” caliper, balled and burlapped, and planted 15’ to 30’ apart.
<i>Acer saccharum</i> ‘Legacy’	‘Legacy’ Sugar Maple	
<i>Celtis occidentalis</i>	Common Hackberry	
<i>Gleditsia tricanthos inermis</i> ‘Skyline’	‘Skyline’ Honeylocust	
<i>Quercus bicolor</i>	Swamp White Oak	
<i>Quercus palustris</i>	Pin Oak	
<i>Quercus rubrum</i>	Northern Red Oak	
<i>Tilia americana</i>	American Basswood	
Table 1 (Cont.)		

Botanical Name	Common Name	Size and Spacing
Flowering Trees		
<i>Amelanchier canadensis</i>	Shadblow Serviceberry	Flowering trees should be of various sizes from 1” to 2” caliper, balled and burlapped, and planted 10’ to 20’ apart.
<i>Carpinus caroliniana</i>	American Hornbeam	
<i>Cercis canadensis</i>	Eastern Redbud	
<i>Corylus americana</i>	American Hazelnut	
<i>Crataegus crus-galli inermis</i>	Cockspur Hawthorn	
Shrubs		
<i>Aronia melanocarpa</i>	Black Chokeberry	Shrubs should be of various sizes from 18” to 30” height, balled and burlapped, and planted 2’ to 3’ apart.
<i>Juniperus virginiana</i> ‘Grey Owl’	Grey Owl Juniper	
<i>Potentilla fruticosa</i>	Shrubby Cinquefoil	
<i>Rhus typhina</i>	Sumac	
<i>Ribes alpinum</i>	Alpine Currant	
<i>Rosa rugosa</i>	Rugosa Rose	
<i>Viburnum dentatum</i>	Arrowwood Viburnum	
Perennials		
<i>Hemerocallis</i> ‘Happy Returns’	Happy Returns Daylilies	Perennials should be plugs or container grown, and planted 1’ to 3’ apart.
<i>Panicum virgatum</i>	Switchgrass	
<i>Schizachyrium scoparium</i>	Little Bluestem	

All landscape beds should be edged with metal edging and mulched with organic mulch, such as shredded bark mulch. Rock, stone, plastic, and other mulches that will not decompose should be avoided.

Lighting

The consistent use of a light fixture is very important in creating cohesiveness along a corridor. A 12-foot pedestrian light was selected to be located along the pathways at selected locations with additional lighting located within the refuge islands and at the crosswalks. The proposed light fixture is a CAND1 light fixture as manufactured by Lumec (Model no.: CAND1-DIST-175WHM-VOLTAGE-BKTX-LP-CN1-APR4-12’-BKTX-LBC2-BKTX) (Dynamic Group, Inc, 248-476-7676). The use of a coated light bulb as well as the selection of specific optical system at the time of design is recommended to diffuse and soften the output light and prevent any glare along the corridor.

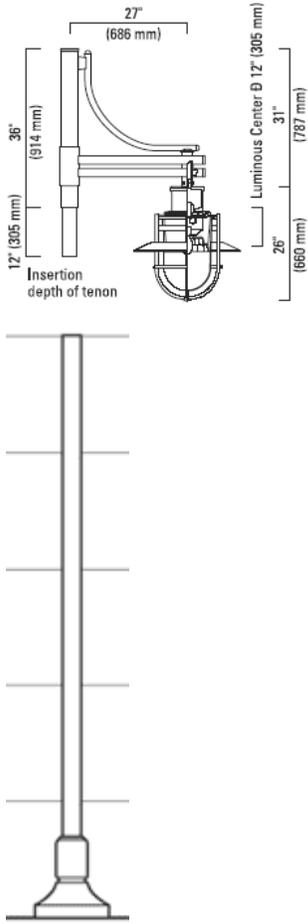


Figure 26. Pedestrian Light Fixture

Implementation

Preliminary Cost Estimates and Phasing

The East Grand River Corridor Plan outlines improvements for the corridor development. However, the Plan is incomplete without an idea of the costs and an implementation program. Table 2 illustrates the estimated costs of each specific construction element as well as phasing.

Table 2. Preliminary Cost Estimate

	Quantity	Unit	Unit Price	Price	Phase
PEDESTRIAN PATHWAYS					
Concrete sidewalks - City to Whitmore Lake Rd					
north side	2,795	LF	\$19.00	\$53,105.00	I
south side	1,650	LF	\$19.00	\$31,350.00	I
Asphalt surface for 8' wide paved trail (3")					
north side	18,510	LF	\$13.50	\$249,885.00	I
south side	6,125	LF	\$13.50	\$82,687.50	II
Aggregate base for 8' wide paved trail (6") includes grading, base, and sub-base preparation					
north side	18,510	LF	\$10.50	\$194,355.00	I
south side	6,125	LF	\$10.50	\$64,312.50	II
Pedestrian bridges over US-23 (Assuming good conditions)					
	4	EA	\$125,000.00	\$500,000.00	III
Subtotal - pathways and bridges				\$1,175,695.00	
CROSSWALKS					
Whitmore Lake Road Intersection Crosswalks					
Grand River Crossing - East					
Concrete approaches and ramps	160	SF	\$5.00	\$800.00	
Detectable warning strips	20	SF	\$30.00	\$600.00	
Pavement markings (70')	560	SF	\$2.50	\$1,400.00	
Pedestrian lights added to traffic signals	1	LS	\$5,000.00	\$5,000.00	
Subtotal				\$7,800.00	I
Grand River Crossing - West					
Concrete approaches and ramps	160	SF	\$5.00	\$800.00	
Detectable warning strips	20	SF	\$30.00	\$600.00	
Pavement markings (70')	560	SF	\$2.50	\$1,400.00	
Pedestrian lights added to traffic signals	1	LS	\$5,000.00	\$5,000.00	
Subtotal				\$7,800.00	I
Whitmore Lake Road Crossing - North					
Concrete approaches and ramps (NE corner)	160	SF	\$5.00	\$800.00	

Table 2. (continued)	Quantity	Unit	Unit Price	Price	Phase
Detectable warning strips	20	SF	\$30.00	\$600.00	
Pavement markings (78')	624	SF	\$2.50	\$1,560.00	
Pedestrian lights added to traffic signals	1	LS	\$5,000.00	\$5,000.00	
Subtotal				\$7,960.00	I
Whitmore Lake Road Crossing - South					
Concrete approaches and ramps	160	SF	\$5.00	\$800.00	
Detectable warning strips	20	SF	\$30.00	\$600.00	
Pavement markings (70')	560	SF	\$2.50	\$1,400.00	
Pedestrian lights added to traffic signals	1	LS	\$5,000.00	\$5,000.00	
Subtotal				\$7,800.00	I
Subtotal for Whitmore Lake Road Crosswalks				\$31,360.00	
Academy Drive Intersection Crosswalk					
Concrete approaches and ramp	160	SF	\$5.00	\$800.00	
Detectable warning strips	20	SF	\$30.00	\$600.00	
Pavement markings (64')	512	SF	\$2.50	\$1,280.00	
Pedestrian refuge island	1	LS	\$3,500.00	\$3,500.00	
Pedestrian activated signal	1	LS	\$50,000.00	\$50,000.00	
Road warning signs	2	EA	\$125.00	\$250.00	
Subtotal				\$56,430.00	II
Pleasant Valley Road Intersection Crosswalk					
Pleasant Valley Road Crossing					
Concrete approaches and ramps	160	SF	\$5.00	\$800.00	
Detectable warning strip	20	SF	\$30.00	\$600.00	
Pavement markings	440	SF	\$2.50	\$1,100.00	
Subtotal				\$2,500.00	I
Grand River Crossing					
Concrete approaches and ramp	160	SF	\$5.00	\$800.00	
Detectable warning strips	20	SF	\$30.00	\$600.00	
Pavement markings	512	SF	\$2.50	\$1,280.00	
Road warning signs	2	EA	\$125.00	\$250.00	
Subtotal				\$2,930.00	II
Subtotal for Pleasant Valley Rd. Crosswalks				\$5,430.00	
Kensington Road Intersection Crosswalk					
Grand River Crossing					
Concrete approaches and ramps	160	SF	\$5.00	\$800.00	
Detectable warning strips	20	SF	\$30.00	\$600.00	
Pavement markings	512	SF	\$2.50	\$1,280.00	
Pedestrian lights added to traffic signal	1	LS	\$5,000.00	\$5,000.00	
Concrete path connection to Recreation Area	2,800	SF	\$5.00	\$14,000.00	
Subtotal				\$21,680.00	I

Table 2. (continued)	Quantity	Unit	Unit Price	Price	Phase
Kensington Road Crossing					
Concrete approaches and ramps	480	SF	\$5.00	\$2,400.00	
Detectable warning strips	20	SF	\$30.00	\$600.00	
Pavement markings	640	SF	\$2.50	\$1,600.00	
Pedestrian lights added to traffic signal	1	LS	\$5,000.00	\$5,000.00	
Subtotal				\$9,600.00	II
Subtotal for Kensington Road Crosswalks				\$31,280.00	
Subtotal - Crosswalks				\$124,500.00	
PEDESTRIAN AREAS					
Whitmore Lake Road (Northwest corner)					
Concrete paved area	800	SF	\$5.00	\$4,000.00	
Double canopy	1	EA	\$12,500.00	\$12,500.00	
Benches	2	EA	\$1,750.00	\$3,500.00	
Light fixtures	5	EA	\$4,780.00	\$23,900.00	
Banners	5	EA	\$350.00	\$1,750.00	
Identification sign	1	LS	\$3,000.00	\$3,000.00	
Landscaping	1	LS	\$3,000.00	\$3,000.00	
Subtotal				\$51,650.00	I
Whitmore Lake Road (Southeast corner)					
Concrete paved area	800	SF	\$5.00	\$4,000.00	
Double canopy	1	EA	\$12,500.00	\$12,500.00	
Benches	2	EA	\$1,750.00	\$3,500.00	
Light fixtures	5	EA	\$4,780.00	\$23,900.00	
Banners	5	EA	\$350.00	\$1,750.00	
Landscaping	1	LS	\$3,000.00	\$3,000.00	
Subtotal				\$48,650.00	II
Academy Drive (South side)					
Concrete paved area	800	SF	\$5.00	\$4,000.00	
Canopy	1	EA	\$7,500.00	\$7,500.00	
Benches	1	EA	\$1,750.00	\$1,750.00	
Light fixtures	3	EA	\$4,780.00	\$14,340.00	
Banners	3	EA	\$350.00	\$1,050.00	
Landscaping	1	LS	\$3,000.00	\$3,000.00	
Subtotal				\$31,640.00	II
Pleasant Valley Road (Northeast corner)					
Concrete paved area	800	SF	\$5.00	\$4,000.00	
Double canopy	1	EA	\$12,500.00	\$12,500.00	
Benches	2	EA	\$1,750.00	\$3,500.00	
Light fixtures	5	EA	\$4,780.00	\$23,900.00	

Table 2. (continued)	Quantity	Unit	Unit Price	Price	Phase
Banners	5	EA	\$350.00	\$1,750.00	
Landscaping	1	LS	\$3,000.00	\$3,000.00	
Subtotal				\$48,650.00	
					II
Kensington Road (Southeast corner)					
Concrete paved area	800	SF	\$5.00	\$4,000.00	
Canopy	2	EA	\$7,500.00	\$15,000.00	
Benches	2	EA	\$1,800.00	\$3,600.00	
Light fixtures	5	EA	\$4,780.00	\$23,900.00	
Banners	5	EA	\$350.00	\$1,750.00	
Identification sign	1	LS	\$3,000.00	\$3,000.00	
Landscaping	1	LS	\$3,000.00	\$3,000.00	
Subtotal				\$54,250.00	II
Subtotal - Pedestrian areas				\$234,840.00	
General Landscaping					
Tree planting along roadway	1	LS	\$45,000.00	\$45,000.00	I
Grand Total				\$1,580,035.00	

Note: Cost does not include permitting, engineering, or construction contingencies. Costs are estimated at 2005 construction costs. The addition of pedestrian crosswalks marked with stamped concrete or asphalt would increase the total cost by about \$40,000.

Priorities and phasing

- 1. Phase I. Road improvement project with Transportation Enhancement grant submittal:** As part of the road improvement project the concrete sidewalks and the pathway on the north side of the roadway will be built during this phase. Although the cost is included in this phase, it is not recommended to install the pathway from the Whitmore Lake Road intersection to the US-23 bridges before the pedestrian bridges spanning the highway can be installed. Pedestrian areas that are located within the existing right-of-way will also be part of this phase. This includes the areas at Whitmore Lake Road, Pleasant Valley Road, and Kensington Road as well as the pedestrian area at the northwest corner of Whitmore Lake Road intersection. The preliminary total for this phase amounts to \$748,974 including a 10% construction contingency.
- 2. Phase II. Continued Pedestrian improvements:** This phase will include the installation of the asphalt pathway on the south side of the road as well as the remaining crosswalks and pedestrian areas for a total of \$439,065 including a 10% construction contingency.
- 3. Phase III. Bridges:** The installation of the bridges spanning US-23 is left as the only remaining phase of the project and could amount, on a very preliminary basis, to a minimum of \$500,000.00.

Financing Strategies

Sources of funding and grants will need to be carefully evaluated. Suggestions for some of the mechanisms to raise funds are provided below.

Funding Sources

Transportation Enhancement (TE) Program. The TE program establishes a fund that can be used to finance part of the cost of “participating” transportation activities. Examples of “participating” costs include master plan development for a streetscape design, crosswalk specialty paving, lighting (limited), sidewalks, and landscaping. This program is administered through the Michigan Transportation Enhancement Program of the Michigan Department of Transportation (MDOT).

This important funding source is being considered in implementing the East Grand River Corridor Plan. The program will consider any participating costs for improvements that are built within the road right-of-way, or within easements, which are an extension of the right-of-way. Program administrators consider the easement as putting the property into public ownership, and, therefore, making improvements eligible for funding. The community is required to pay a share of the participating costs, as well as the full amount of non-participating costs.

A TE application is planned to be submitted by the Livingston County Road Commission for phase I of this project including construction of the north side pathway and work within the existing 100-foot right-of-way in early 2006.

General Fund. The Township Boards may make an appropriation from the general fund to finance certain improvements. However, this method is not considered entirely feasible because general funds are usually needed to finance essential services, leaving little available money for additional projects.

Revenue Sharing. The Township Boards may choose to appropriate a portion of Federal and State revenue sharing funds for improvement projects. However, Federal revenue sharing cannot be used as a local match to Federal grants.

General Obligation Bonds. With the approval of the voters, the Townships can sell general obligation bonds, usually having a long payback period and low interest rates. General obligation bonds also enjoy the backing of the full faith and credit of the Townships. The sale of such bonds may result in a millage increase.

Special Millage. The Township Boards may ask for voter approval to earmark increased millage for a specific improvement project.

Special Assessment. Many projects that benefit only a segment of the community rather than the community at large are financed through special assessments to the benefiting property owners. Drainage and street improvements are projects frequently financed through special assessments.

Planning Strategies

The Corridor Plan is intended to guide and regulate future land development within the Corridor. The planning and coordination for the future of the Grand River Corridor does not end with the adoption of this plan. A number of strategies should be considered to further implement the Corridor Plan.

- The Townships' Zoning Ordinances could play a role in the implementation of this Plan. When properly applied, the Zoning Ordinance accept the realities of existing land uses and gradually, as new development is proposed, direct growth toward achieving the implementation of the Corridor Plan. As rezoning requests are considered, they should be reviewed for agreement with the basic proposals of this Plan.
- Implementation through the Planned Unit Development (PUD) process – Private development within the Grand River corridor will frequently seek site plan/zoning approval through the PUD option. The Townships should require adherence to the East Grand River Corridor Plan and Guidelines as part of PUD standards.
- Implementation through zoning regulations and site plan review – Future development should be subject to site planning standards and the standards contained within the East Grand River Corridor Plan.
- Coordination of planning activities and programs with other levels of government in particular with the Livingston County Road Commission should be considered.
- Township-driven provision of the amenities located within the public right-of-ways and proposed community facilities.

Citizen involvement and support will be necessary as the Plan is implemented. Local officials should constantly strive to develop procedures that make citizens more aware of the planning process and the day-to-day decision-making that affects implementation of the Plan. A continuous program of discussion, education, and participation will be extremely important as the Townships move toward realization of the East Grand River Corridor Plan.

