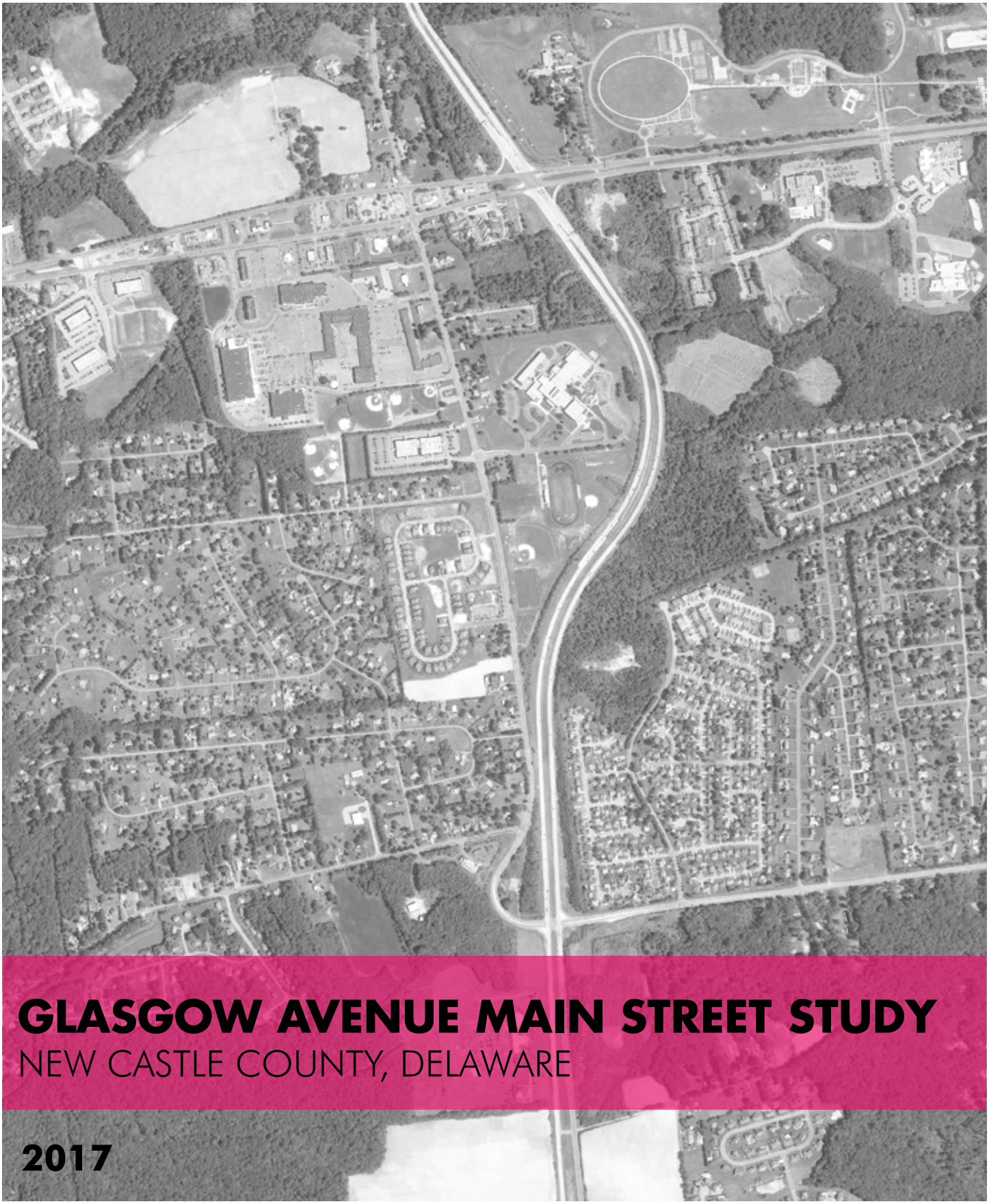

GLASGOW AVENUE MAIN STREET STUDY

NEW CASTLE COUNTY, DELAWARE

2017

WILMAPCO DelDOT

RHODESIDE & HARWELL
WELLS + ASSOCIATES
RCLCO

ACKNOWLEDGMENTS

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CONTENTS

EXECUTIVE SUMMARY

VISION

This Glasgow Avenue vision plan will guide future transportation and land use changes along the corridor to lead it toward becoming a walkable, bikeable, vibrant, livable hub - a "Main Street" for the community.

Glasgow Avenue is transitioning away from its former role as an arterial roadway, with limited access points, to a street that supports local trips between the many and varied neighborhoods and other destinations on the 1.3 mile corridor. This study is called a "Main Street" study because **the purpose of Glasgow Avenue is shifting to one of a community destination and activity hub, similar to a traditional Main Street**. The idea of a study for this corridor was proposed in the Route 40 Corridor 20-Year Transportation Plan.

Though its functionality has changed, Glasgow Avenue is still designed to carry much higher traffic volumes than currently exist. As a result, people driving vehicles tend to do so very quickly. With few sidewalks, few crossings, and bike lanes that are unprotected, **the road discourages riding bicycles and walking.**

The corridor will continue to face mobility and safety issues, especially as redevelopment occurs. The Glasgow Avenue Main Street Study process provided an opportunity for community members and other stakeholders to **shape future change and have input into how new development and street improvements occur over time.**

GOALS

COMPLETE STREET

Glasgow Avenue should be a complete street that supports all users with the facilities they need.

VIBRANT MAIN STREET

Glasgow Avenue should be a vibrant "Main Street" hub for the community.

HOLISTIC COMMUNITY

Glasgow Avenue should provide a range of facilities and amenities to accommodate different preferences and abilities.

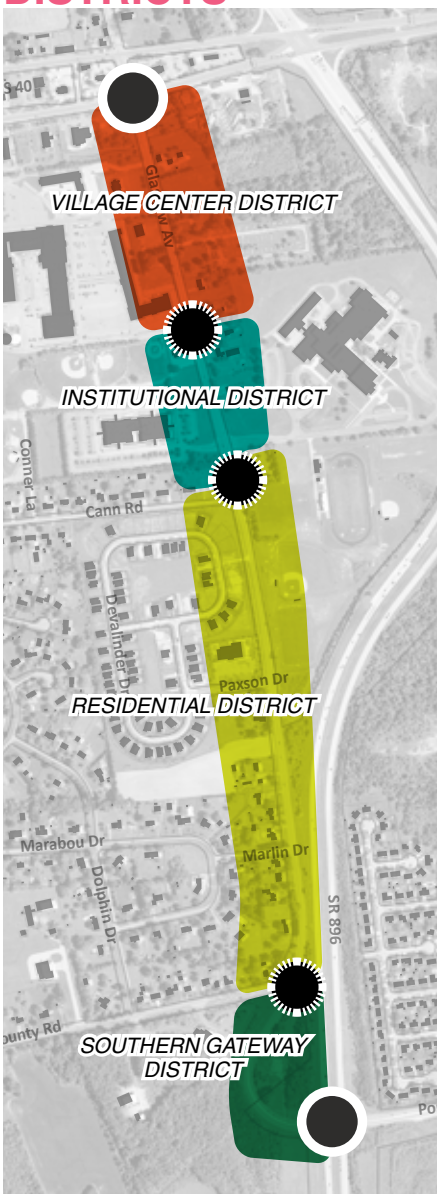
COHESIVE CORRIDOR

Glasgow Avenue should have a clear design identity.

GREEN CORRIDOR

Glasgow Avenue should be a green place, with a design that protects and enhances existing environmentally-sensitive areas.

DISTRICTS

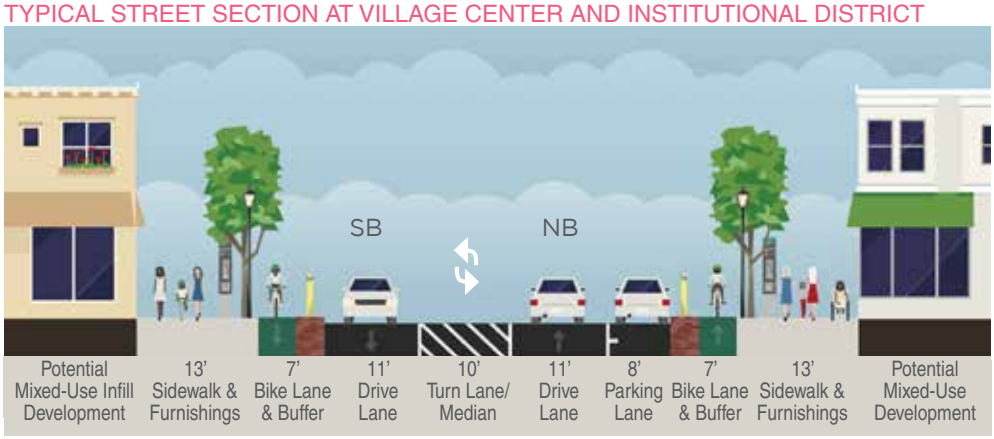


MULTIMODAL TRAVEL

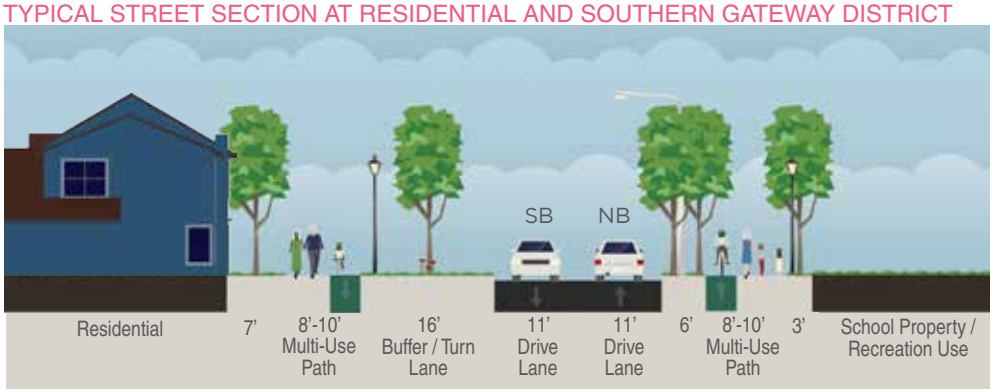
The following multimodal elements are recommended to improve the corridor for all residents and visitors:

- Continuous sidewalks or multi-use paths
- Improved bicycle facilities
- Shade trees
- Street parking within Village Center District
- Roundabouts (Paxson Drive and Old County Road)
- Improved bus connections, as well as potential amenity and service additions
- Stronger building and site design guidelines

TYPICAL STREET SECTION AT VILLAGE CENTER AND INSTITUTIONAL DISTRICT



TYPICAL STREET SECTION AT RESIDENTIAL AND SOUTHERN GATEWAY DISTRICT



DISTRICT RECOMMENDATIONS

VILLAGE CENTER DISTRICT

The commercial core of Glasgow Avenue

- Establish a development pattern with a mix of land uses and civic gathering spaces on both sides of the street
- Establish a roadway character that includes wide sidewalks and buffered bike lanes

INSTITUTIONAL DISTRICT

Home to educational, medical, and recreational institutions

- Maintain a cohesive roadway character, creating a transition between the Village Center and Residential Districts

RESIDENTIAL DISTRICT

Primarily residential uses

- Create a green corridor to connect residents to other Districts
- Use trees and landscaping to buffer pedestrians, bicyclists, and homes from traffic

SOUTHERN GATEWAY DISTRICT

Transition between residential and rural/nature character

- Maintain the green corridor
- Provide a wide buffer for people walking and riding bicycles

1 INTRODUCTION

This vision plan will guide future transportation and land use changes along Glasgow Avenue to lead it toward becoming a walkable, bikeable, vibrant, livable hub - a "Main Street" for the community.

OVERVIEW

The Glasgow Avenue Main Street Study involved a process, led by WILMAPCO, New Castle County, and DelDOT, to **study transportation and land use needs** for a 1.3 mile stretch of Glasgow Avenue, between US 40 and the intersection of SR 896 and Porter Road. It was an **opportunity for community residents and other area stakeholders to shape future changes** along this corridor and to have input into how new development and street improvements can occur over time. The study was recommended in DelDOT's "Route 40 Corridor 20-Year Transportation Plan."

NEED

Prior to the construction of the SR 896/Glasgow bypass, this section of old SR 896 functioned as an arterial roadway. Though the roadway now primarily supports local trips between businesses, the high school, a medical center, and residential developments, it is designed to carry much higher traffic volumes than currently exist. As a result, people tend to drive very quickly, which **discourages riding bicycles and walking.**

Changes are coming to the Glasgow Avenue corridor. In response to the area's changing needs and interests, there are several proposed developments in the study area, and many parcels of land that are potential sites for future redevelopment. With these changes comes a growing need for design guidelines, non-auto travel options, and other improvements that are consistent with New Castle County's goals for walkable development, active living, and creation of a safe and attractive corridor.

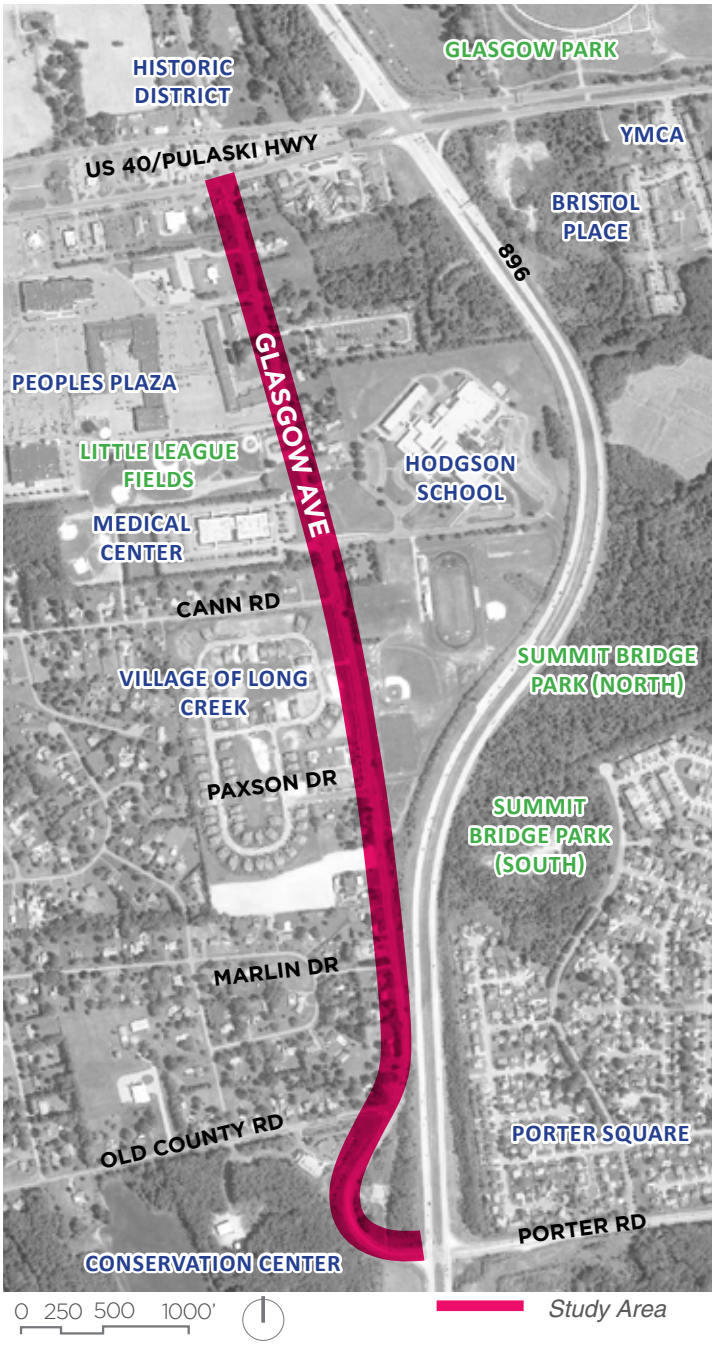
PURPOSE

The Plan Does:

- **Put forth street and building/site design guideline recommendations** that can be adopted and implemented by the County and other agencies.
- **Provide a development framework** for agencies, property owners, and potential developers to follow to build on and enhance the existing character of Glasgow Avenue.

The Plan Does Not:

- **Establish requirements** regarding the density or form of the built environment.
- **Put forth recommendations for dramatically intensifying development** along Glasgow Avenue.



ELEMENTS OF A "MAIN STREET"

The study is intended to create a "Main Street" vision plan to guide transportation improvements and land use along Glasgow Avenue. What makes a street a "Main Street"?

Elmwood Avenue, Buffalo, NY

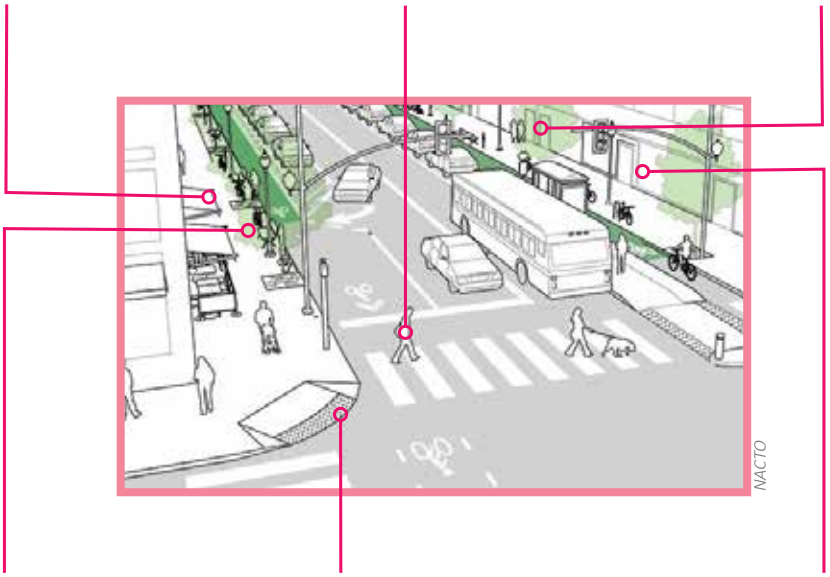
A MIX OF USES: A variety of land uses (housing, shops, schools, parks, offices, etc.) in the same area.

Jefferson Avenue, West Jefferson, NC

PEOPLE: Enough residents and visitors for businesses to flourish and for public transit to run frequently.

Silver Plaza, Silver Spring, MD

DESTINATIONS: Whether they are shops, public spaces, community facilities, medical facilities, or other activity hubs.



PARKS AND PUBLIC SPACES: Plenty of public places to meet, gather, and play.

COMPLETE STREETS: Streets designed to provide safe access for people biking, walking, taking the bus, and driving.

PEDESTRIAN-SCALE DESIGN: Comfortable and spacious sidewalks, with buildings close to the street and parking lots in the back.

Main Street Plaza, Danville, VA

East Boulevard, Charlotte, NC

Main Street, Newark, DE

BENEFITS OF WALKABLE COMMUNITIES

HEALTH BENEFITS

Increasing travel options can lead to...

- More Active Travel
- Fewer Car Miles Traveled
- Wiser & Safer Use of Transportation
- More Affordable Travel

...which tend to result in...

- More Physical Activity
- Better Access to Healthcare & Healthy Food
- Fewer & Less Severe Crashes
- Better Sleep & Less Stress
- Less Exposure to Pollutants

...which can lead to...

- Healthier Life
- Longer Life
- Fewer Injuries
- Fewer Diseases
- Better Mood

Adapted from a publication by Simple Solutions Planning & Design, LLC

- A study of 3,200 overweight adults found that a better diet and walking 2.5 hours/week reduced their risk of developing diabetes by 58%. Risk for those over 60 decreased by 71%. (Manson, Greenland, and Lacroix et al., 2002)
- Students have shown improved cognitive performance after exercising. (Sibley and Etnier, 2003)
- Risks of death from breast cancer were reduced by half for women who walked 3-5 hours/week. (Holmes, Chen, Feskanich, Kroenke, and Colditz, 2005)
- Retired men who walked less than 1 mile/day had nearly twice the mortality rates of those who walked more than 2 miles/day. (Hakim, Petrovitch, Burchfiel, et al., 1998)

ECONOMIC BENEFITS

A walkable community can lead to...

Greater accessibility for **more people.**

Transportation cost savings for individuals & families.

Substitutions for vehicle travel & reduction in negative impacts (to health, for example) to **create public cost savings**.

Development clustering & **reduction in the amount of land used** for vehicle facilities.

Improvement to the local environment to enhance livability & quality of life, retaining & attracting more residents.

More attractive commercial areas, drawing both consumers & developers. **Development clustering** & **reduction in the amount of land used** for vehicle facilities.

Adapted from "Economic Value of Walkability," Todd Litman, 2014

- A 2009 study found that assessed real estate value increased $700 to $3,000 for every one-point increase in Walk Score (a walkability index). (Cortright, 2009)
- A study in Portland, Oregon found that houses in neighborhoods with a connected grid street system experienced greater appreciation than homes within neighborhoods with a predominately cul-de-sac design. (Song and Knapp, 2003)
- The average American family living in a sprawling area pays about $1,300 more per year in transportation expenses than families living in more compact places. (McCann, 2000)

GOALS & OBJECTIVES

While the overarching goal of this study was to create a plan for achieving a Main Street vision, specific goals and objectives were developed based on community member input. The following project goals and objectives were developed based on input from public workshops, stakeholder interviews, and partner agency discussions.

GOALS

COMPLETE STREETS: Glasgow Avenue should be a complete street that supports all users with the facilities they need.

VIBRANT MAIN STREET: Glasgow Avenue should be a vibrant "Main Street" hub for the community.

HOLISTIC COMMUNITY: Glasgow Avenue should provide a range of facilities and amenities to accommodate different preferences and abilities.

COHESIVE CORRIDOR: Glasgow Avenue should have a clear design identity.

GREEN CORRIDOR: Glasgow Avenue should be a green place, with a design that protects and enhances existing environmentally-sensitive areas.

OBJECTIVES

- Design facilities for people to conveniently and safely drive, walk, bike, and use transit
- Manage speed with lanes that are not excessively wide and with vertical elements such as street trees and buildings pulled up closer to the sidewalk
- Improve intersection conditions at Old County Road
- Provide convenient and accessible bus stops on Glasgow Avenue

- Provide spaces for a diversity of uses and activities
- Design a "complete street" for Glasgow that allows for safe and comfortable walking and biking
- Allow 2-3 story buildings fronting on Glasgow Avenue north of Cann Road
- Lower prevailing vehicle operating speeds

- Create pedestrian and bicycle links to existing and planned regional trail facilities (e.g., US 40 path)
- Create connections between corridor amenities (e.g., along the entire corridor, within existing and planned residential developments, connections between the Little League fields and adjacent neighborhoods/shopping center, etc.)
- Provide family-friendly community amenities

- Create a unified visual identity through street design, landscape, signage, lighting, and street furniture
- Define "gateways" at key intersections
- Link the corridor to popular destinations and adjacent neighborhoods with a unified sidewalk and trail system
- Create design guidelines for the corridor to guide future development

- Add trees and landscaping to the edges of the roadway and a median as appropriate
- Protect and enhance the existing environmentally sensitive areas
- Add ecologically sound stormwater management practices

HISTORY OF GLASGOW AVENUE

Glasgow Avenue and the surrounding communities have a long and rich history, interwoven with major events and technological advances that shaped not only the region, but also the country. The timeline on this and the following pages brings together a small selection of these events, and displays images that showcase changes along the corridor.

Elements in the timeline were sourced from "A Guide to the History and Heritage of Pencader Hundred Delaware" (2007), by Judith Pfeffer and Robert C. Barnes, unless otherwise noted. Aerial imagery was obtained from the Delaware Environmental Monitoring and Analysis Center (DEMAC).

Native American groups, including a subdivision of the indigenous people known as Lenape, mined and traded the jasper stone from nearby Iron Hill.

1700

Early 1700s: Village of Glasgow established. Prior to being named Glasgow, it was called New Glasgow, Aikentown, Aiken's Tavern, and Pencader.

1720

1777: During the American Revolution, British and Hessian forces marched along what is now Glasgow Avenue to participate in the Battle of Cooch's Bridge.

1800: Census counts 25 dwellings and 159 inhabitants in the Village of Glasgow.

1740 **1760** **1780** **1800**

1810: Census counts 29 dwellings and 177 inhabitants in the Village of Glasgow.

1816: New Castle / Frenchtown Turnpike (now US 40 through Glasgow) completed.

1820

1828: Post Office opens in Glasgow.

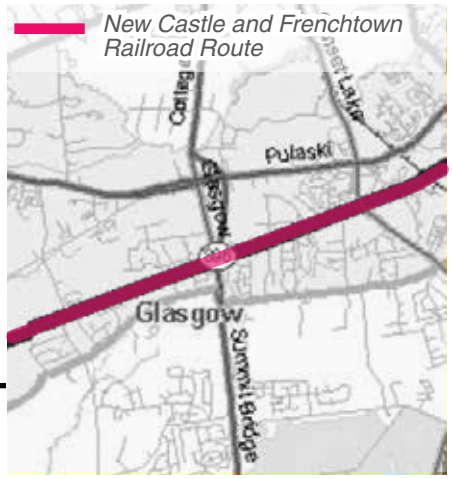
1832: New Castle and Frenchtown Railroad (the first railroad in Delaware), which crossed through the study area, begins horse-powered service.

1837: New Castle and Frenchtown Railroad is engine-powered.

1840

1853: New Castle and Frenchtown Railroad service is discontinued.

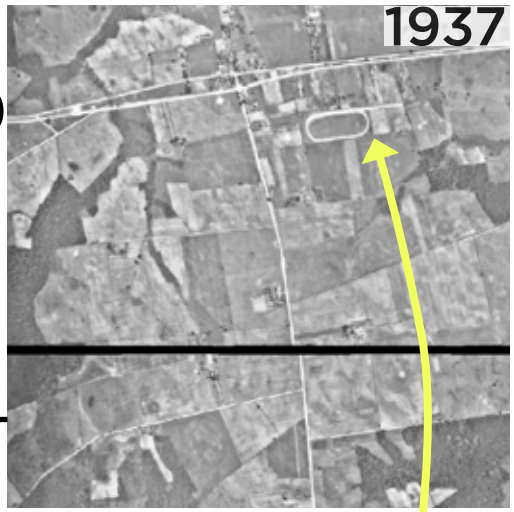
1860 **1880** **1900** **1920**



Adapted from http://jlmeek.com/ncf/route.htm

1950

1940



WILLIS DISPOSES OF RACE TRACK NEAR GLASGOW

Sells Cowview Farm, No. 4, to Thomas Healy, Noted Trainer.

IT CONTAINS 33 ACRES

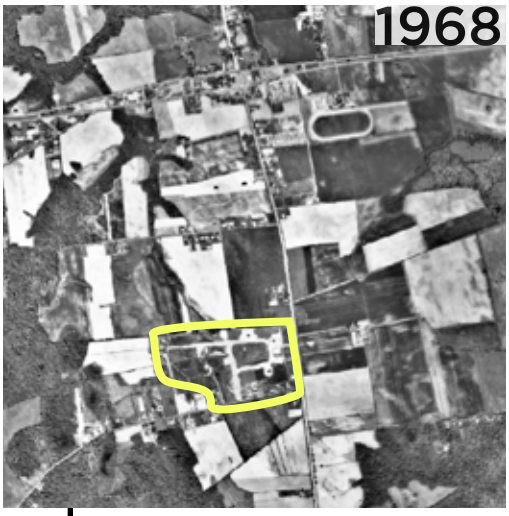
J. Wirt Willis, of the New Castle Leather Company, Wilmington, today announced the sale of a part of his estate near Glasgow, containing the half mile track to James Healy, es training quarters for running horses. Mr. Healy is trainer for Mrs. F. Ambrose Clark and Colonel Alger, who are both well known in the racing world.

1930

1925: Major sale of horse racing track, known as Cowview Farm, near Glasgow Avenue. The track was built around 1922, and was used for training and exhibition races. (Article from an August 24, 1925 issue of The News Journal, obtained from Newspapers.com.)

ca. 1968: Construction begins for Marabou Meadows.

1960



1970

1970: The first tenant (Delaware Trust Company) moves in to Peoples Plaza.

1974: Paul M. Hodgson Vocational Technical High School built.

1976: Construction begins for Melody Meadows. (Ad from an August 14, 1977 issue of The Morning News, obtained from Newspapers.com.)

1980

1990

1992

1993: The Delaware 896 bypass of Glasgow Avenue opens.

2000-2010: The population of the Glasgow Census Designated Place (comprising the Census Tracts on either side of Glasgow Avenue) **increased more than 20%**, from 12,840 people in 2000 to 15,648 people in 2010.

2000

1997

2007

2007: Construction begins for the Village of Long Creek.

2010

2013

2 PLAN DEVELOPMENT PROCESS

The Glasgow Avenue planning process identified needs and opportunities, options for addressing those needs, and a final recommendation that takes into account all analyses and stakeholder input.

OVERVIEW OF THE PROCESS

The Glasgow Avenue Main Street Study took place over two and a half years, from early 2015 to mid 2017. Each step of the process was informed by stakeholder input, as detailed further in the next section.

The process began with an assessment of existing transportation, market, land use, and urban design conditions, which evolved into an understanding of needs and opportunities. This understanding contributed to creation of a set of goals and objectives. Following the definition of goals, a set of draft alternative concepts were developed and reviewed with the community.

The process was originally envisioned as a one year process; however, after the initial development of alternatives, the project was placed on hold while a separate team completed a Traffic Impact Study (TIS) for the large redevelopment site located at the southeast corner of Glasgow Avenue and US 40 / Pulaski Highway. More information about the TIS can be found in the inset box on the next page.

Once the TIS was completed, the final Glasgow Avenue concept was refined and presented to the public. The report was finalized after incorporating community input into the final recommendations.

KEY MILESTONES

1. > Collect Data and Make Observations
   > Establish Draft Project Goals

   Public Meeting #1 (March 2015)
2. > Identify Opportunities and Constraints (Transportation, Market, Land Use)
   > Refine Goals
3. > Develop Draft Alternative Concepts

   Public Meeting #2 (June 2015)
4. > Refine Concepts
5. > Traffic Impact Study (Not performed by project team; see inset box)
6. > Develop Draft Recommended Concept & Guidelines

   Public Meeting #3 (May 2017)
7. > Refine Recommendations and Guidelines
   > Create Final Report

SUMMARY: TRAFFIC IMPACT STUDY (TIS)

WHAT IS THE TRAFFIC IMPACT STUDY?

Landmark Science & Engineering was hired by Reybold Development to complete a Traffic Impact Analysis Study (TIS) for Glasgow Avenue. The study examined potential impacts to traffic operations caused by the proposed development at the southeastern corner of Glasgow Avenue & US 40 / Pulaski Highway. This 30.9 acre mixed-use development is planned to contain a 207,500 square foot shopping center, a 5,000 square foot drive-in bank, 72,000 square feet of general office space, 14,200 square feet of medical office space, and a 9,800 square foot high-turnover sit-down restaurant. This study was not completed as part of the Glasgow Avenue Main Street Study, but it does have important implications for the creation of a "main street" along Glasgow Avenue.

The full TIS is available on the New Castle County website.

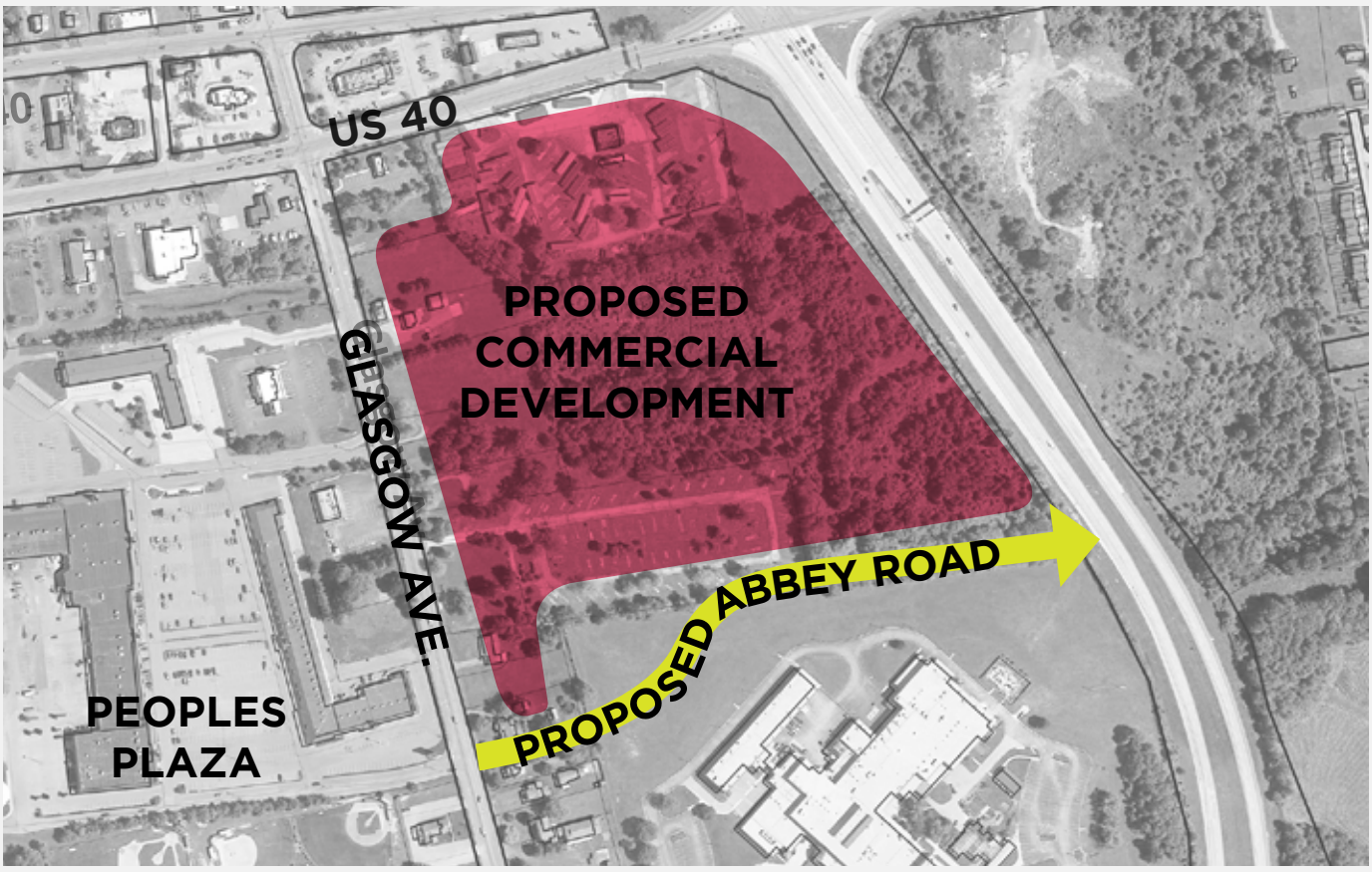
KEY FINDINGS

The County's assessment of the TIS indicates that while the proposed development could impact traffic operations, the developer has identified acceptable improvements that would meet the requirements listed in the Unified Development Code () and would mitigate the impacts identified.

One of the proposed improvements is a new service road, also known as Abbey Road which is proposed to connect the southern end of the new development to Glasgow Avenue.

In addition, the TIS states that, "The developer should construct a bike lane and sidewalk consistent with The Glasgow Avenue Main Street Study along the easterly side of Glasgow Avenue from US Route 40 to the South Entrance to Peoples Plaza that meets current standards. The developer should coordinate with DelDOT's Development Coordination Section during the plan review process to identify the exact location of proposed bike lanes and sidewalks as well as the needed furnishings along the sidewalk."

The proposed development area for which the TIS was conducted



PUBLIC AND STAKEHOLDER INVOLVEMENT

Community and stakeholder engagement was a critical element of the Glasgow Avenue Study to ensure that the study addressed current needs and concerns, and that the recommendations would be supportable. The team utilized three main methods of sharing and gathering information, as described in this section.

WEBSITE

WILMAPCO established a project website (http://www.wilmapco.org/glasgow/) where public meeting materials were made available. Community members were also able to access comment sheets to provide their input.

A screenshot of the study website

INTERVIEWS & DISCUSSIONS

Initial small group discussions and interviews occurred on January 22-23, 2015. Representatives from the planning partner agencies (WILMAPCO, New Castle County, and DelDOT) and consultant team attended each meeting.

- Reybold Group
- R.C. Peoples, Inc.
- Councilman Tackett
- Representative Earl Jaques
- New Castle County Parks
- DART
- Community members, including Route 40 Steering Committee members, residents, and business and institutional representatives

In each of the meetings, attendees shared their ideas for a Glasgow Avenue vision, knowledge about existing opportunities, and issues and concerns that they would like to see addressed.

PUBLIC WORKSHOPS AND MEETINGS

All of the materials from each of three meetings were posted on the WILMAPCO website. Each of the meetings are summarized in this section. Detailed summary documents are available on WILMAPCO's website and in the Appendix of this document.

PUBLIC MEETING #1, MARCH 4, 2015 (TOPIC: KICKOFF AND VISIONING WORKSHOP)

The first public meeting for the Glasgow Avenue Main Street Study took place on March 4, 2015, from 6:00-8:00 PM at the Executive Banquet Hall (205 Executive Drive, Newark). There were approximately 30 attendees from the general public.

The meeting began with an open house, during which community members browsed boards that displayed project information and precedent images. They also provided some information about themselves, including how long they have lived in the area, where they live, destinations that they visit often along the corridor, and their thoughts about Glasgow Avenue, as it is today.

The consultant team gave a short presentation that summarized the project goals, elements of a typical "Main Street," and initial observations about Glasgow Avenue today. The presentation was followed by a question and answer period, and break-out discussion groups. The break-out groups consisted of six tables of four to six participants, facilitated by at least two members of the project team or consultant team. The groups discussed their perceptions about the current state of Glasgow Avenue and

shared their vision for the corridor's future. Following the small group discussions, a representative from each group reported back to the larger audience. Participants were also asked to complete a survey.

In general, attendees recognized that there are many positive characteristics of Glasgow Avenue (destinations, neighborhoods, location, recreational amenities) but noted many issues related to traffic speeds, intersection improvements, bicycle and pedestrian improvements, and placemaking that they would like to see addressed.

Meeting attendees placed green dots where they live and red dots on places they visit often. Attendees represented many different neighborhoods near Glasgow Avenue.

The words below represent the words that meeting attendees used to describe Glasgow Avenue today. The larger the word, the more it was used.

PUBLIC MEETING #2, JUNE 10, 2015 (TOPIC: BIKE/PEDESTRIAN ALTERNATIVES & DEVELOPMENT SCENARIOS)

The second public meeting for the Glasgow Avenue Main Street Study took place on June 10, 2015, from 5:30-8:00 PM at the Hodgson Vocational-Technical High School (2575 Glasgow Ave, Newark). There were 36 attendees from the general public.

The meeting began with an open house, during which community members browsed boards displaying project information, including: Goals and objectives refined based on prior public input; existing conditions analysis maps; proposed character districts and vicinity pedestrian/bicycle connectivity concepts; elements of a Main Street displays; development scenarios for creating a community Main Street; three complete streets alternatives; and next steps, including draft ideas for Village Design Guidelines and Street Design Guidelines. The consultant team also gave two identical, short presentations that summarized the goals of the project, work to date, Main Street elements, and complete street alternatives.

Attendees received a survey when they checked in, and wrote their responses to questions as they visited the boards. They were also encouraged to write their comments and questions on large sheets hanging by the boards.

In general, attendees supported the idea of a "Main Street" development pattern on the northern end of the corridor, and appreciated the goals, objectives, and multimodal alternatives. Many people requested that concerns about traffic safety and speeds be further addressed.

On their Meeting #2 survey comment sheets, meeting attendees indicated what they liked and did not like about the three multimodal alternatives. Likes and dislikes, as well as total number of attendees who preferred each alternative, are presented in the table below. There were a total of 13 survey responses.

ALTERNATIVE	LIKE	DISLIKE	PREFERRED BY
Alternative '1' Buffered Bike Lanes, Sidewalks, and Multi-Use Path	• Safer for pedestrians and bicyclists of all ages • Separation of bicyclists and pedestrians • Fewer curbs for bicyclists • Bike lanes separated by curbing for safety	• Potential maintenance issues when bollards are hit or knocked down (snowplowing, etc.) • Parallel parking	4
Alternative '2' Multi-Use Paths (Both Sides)	• Separation from the roadway will help provide a greater perception of safety • Opportunity for natural landscape and buffers for beautification	• Parallel parking	5
Alternative '3' Multi-Use Path (One Side) and Sidewalk (One Side)	• Prefer not to have a cyclist behind me when I am walking	• Having a pathway on one side for both directions is counterintuitive to biking with traffic • Could be chaotic, if people on bicycles weave within people walking, pushing strollers, walking pets, etc. • People on bicycles will have to go out of their way to get to destination if the bike trail is only on one side • Parallel parking	3

PUBLIC MEETING #3, MAY 22, 2017 (TOPIC: DRAFT RECOMMENDATIONS)

The third and final public meeting for the Glasgow Avenue Main Street Study took place on May 22, 2017, from 4:30-7:00 PM at the Hodgson Vocational-Technical High School (2575 Glasgow Ave, Newark). There were about 65 attendees from the general public.

The meeting began with an open house, during which community members browsed display boards with information about the project background and draft recommendations related to the design of the street and surrounding areas.

Attendees received a survey when they checked in. Staff members were available near display boards to answer questions and record comments. The consultant team gave a short presentation that summarized the goals of the project, work to date, and recommendations. A short Q&A followed.

Meeting attendees generally supported the proposed character districts and the overall multimodal concepts. Many people expressed continuing concerns about traffic safety and neighborhood accessibility via vehicle, particularly in light of pending developments on the northern end of the corridor.

3 EXISTING CONDITIONS

The analysis of existing conditions, gleaned from data analysis and stakeholder input, reveals that Glasgow Avenue holds a lot of potential to realize the "Main Street" vision. However, it also lacks certain key characteristics that will need to be fostered through the development of this plan. The tables that follow summarize the findings of the full Existing Conditions Report, which can be found in the Appendix.

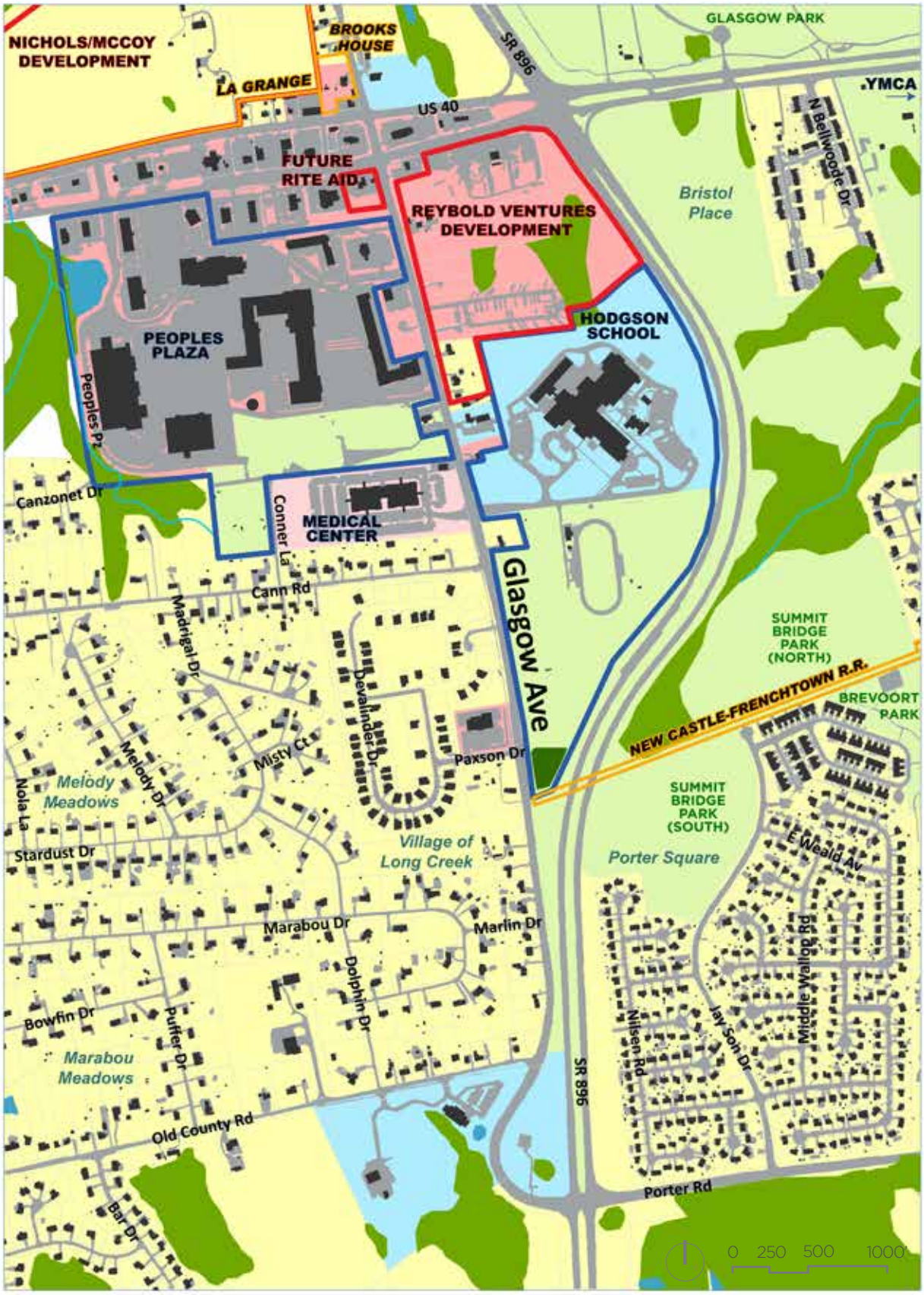
LAND USE & DESIGN OF THE BUILT ENVIRONMENT

EXISTING LAND USE

Glasgow Avenue offers a wide variety of land uses, including shopping, medical services, a school, parks, and single family residential neighborhoods. Figure 2 presents the layout of current land uses on and around Glasgow Avenue. The north end of the corridor is dominated by commercial uses, including Peoples Plaza, the Glasgow Medical Center, and Hodgson Vocational-Technical High School. Reybold Ventures Development Group holds approximately 30 acres of land at the intersection of Glasgow Avenue and US 40 on which they are proposing additional retail and office uses. The southern portion of the corridor primarily supports residential development and the ball fields for Hodgson High School. The New Castle Conservation Center is also located at the southern end of the corridor. Houses in the area generally date to the 1970's and sit on ¾-acre to one-acre single-family lots. Toward the middle of the corridor there is a childcare center and a newer, age 55+, single-family development with smaller lots than the older housing.

Development conditions vary along the corridor

Existing land use conditions



EXISTING URBAN DESIGN PATTERNS

Once the primary through corridor for the area, Glasgow Avenue has now been bypassed by SR 896. However, Glasgow's roadway design still reflects its former role as a major vehicle travel corridor. As a result, Glasgow Avenue's urban design patterns are inconsistent with the "Main Street" concept.

Many of the elements defining Glasgow Avenue are highlighted in the graphic below. For example, buildings on Glasgow Avenue are generally set back from the roadway with parking in front, sidewalks are limited and fragmented, there are few crosswalks on Glasgow Avenue, street trees are limited, lighting and signage are designed for people driving rather than walking, there is excess pavement, power lines are prominent, and bike lanes are unprotected from the fast-moving traffic. All of these features encourage driving on the corridor and actively discourage people from walking and discourage all but the most practiced from biking.

Examples of ways that the current design of Glasgow Avenue discourages walking and riding bicycles

SUMMARY OF LAND USE AND DESIGN OPPORTUNITIES AND CONSTRAINTS

Category	Opportunities	Challenges
Redevelopment	> Active redevelopment sites at the intersection of Glasgow and US 40: Gas station and Reybold sites > Many other potential redevelopment sites	> Gas station development is moving forward with design prior to adoption of this plan > Limited incentive to redevelop older retails areas in the near term, although underlying land use economics suggest potential > Few and smaller redevelopment sites south of the Reybold property
Destinations & Amenities	> Popular and diverse destinations on the corridor: Peoples Plaza, Hodgson High School, Glasgow Medical Center, RC Peoples Canal Little League fields > Popular recreational destinations nearby: YMCA and Glasgow Park > Shopping convenient to housing > Sufficient right-of-way to provide sidewalks and bike path to connect corridor amenities	> Few places for kids and families > Few civic spaces within or adjacent to the residential neighborhoods > Difficult to walk to destinations due to: fragmented sidewalk network; lack of pedestrian-scale facilities, such as lighting and signage; inadequate crosswalks; high traffic speeds
Development Design	> Building locations offer adequate space for new street designs that support people walking, biking, driving, and accessing buses. These setbacks are, in some cases, large enough to allow new development immediately behind the sidewalk without disturbing existing buildings	> Buildings are generally set back far from the street and parking lots are located in the front, which encourages speeding > Few street trees and other green features > Prominent utility lines
Community	> Stable residential neighborhoods	> Lack of clear identity or sense of place

*The RC Peoples Fields are a **popular destination** for Little League games*

***Large building setbacks** make a wide roadway seem even wider*

*Wide roadways with unused pavement provide **sufficient right-of-way for enhanced multimodal facilities***

*Existing retail developments are located behind parking lots, leading to **difficulties with access and visibility**.*

MULTIMODAL TRANSPORTATION

ROADWAY

Roadway design on Glasgow Avenue, as well as within adjacent shopping centers and neighborhoods, encourages driving and discourages other modes of transportation. While traffic volumes are moderate during off-peak periods, residents indicate difficulty turning at unsignalized intersections during peak travel periods due to increases in traffic volumes. There are numerous curb cuts along the northern third of Glasgow Avenue, which increases confusion and crash potential for drivers, pedestrians, and bicyclists.

SIDEWALKS AND BICYCLE FACILITIES

Sidewalks on Glasgow Avenue are very limited and discontinuous; the only sidewalks are located in front of the Village at Long Creek, and between Cann Road and the Medical Center on the west side of Glasgow Avenue. The only crosswalks on Glasgow Avenue are located at the signalized intersection of Hodgson High School/ Medical Center/Glasgow Avenue. Bicycle lanes are designated along Glasgow Avenue in both the northbound and southbound sides of the roadway. However, no signs are provided and the bike lane pavement markings are limited to intersection locations only. No buffer or barrier is provided between the travel lane and the bike lane. With the numerous commercial entrances and private driveways on the northern third of the corridor, conflicts between people driving and people riding bicycles are likely.

TRANSIT

Four DART bus routes serve the north end of Glasgow Avenue, using the bus stop at Peoples Plaza. After 9:30 p.m., the buses use the on-street bus stop location on US 40, outside of Peoples Plaza. There are parking spaces designated at Peoples Plaza for park-and-ride commuters. The total daily boardings and alightings on all four DART Routes that serve this area is 2037. Of all of the bus stops on the four routes, the bus stops at Peoples Plaza (on US 40 and within the center) handle 290 of the total boardings/ alightings, or 14.2 percent. The assumed riders at Peoples Plaza include local commuters, employees, and shoppers of Peoples Plaza, as well as students at Hodgson High School who have off-site internships as part of their degree program. The lack of pedestrian safety amenities along Glasgow Avenue affects these transit riders.

Traffic and crash data

Existing transit, bicycle, and pedestrian infrastructure

SUMMARY OF TRANSPORTATION OPPORTUNITIES AND CONSTRAINTS

Category	Opportunities	Challenges
Road Design	> Sufficient right-of-way for a "complete street" design that supports people walking, biking, driving, and accessing transit > Publicly owned land at the south end of the corridor creates opportunity to redesign Old County Road intersection	> Blind curves at Old County Road and Glasgow Avenue > Fast travel speeds due to wide roadway > Numerous unsignalized commercial access points and intersections on both sides of the roadway in northern third of the corridor > Lack of access alignment (driveway off-sets from east and west side of corridor) causing conflict points within the corridor > High travel speeds limiting use of bike lane to only the most experienced riders
Transit / Bus	> Four bus routes serving the north end of the corridor	> Transit access only at the north end of the corridor > Transit stop on US 40/Peoples Plaza is not sheltered from weather or protected from the busy roadway > Lack of safe pedestrian connections to bus stops
Traffic	> Moderate traffic volumes because much of the through traffic uses SR 896	> No secondary street connections the along corridor between US 40 and Old County Road
Bicycle and Pedestrian	> Multi-use path planned, and partially built, for US 40 > North/south multi-use trail planned east of SR 896, connecting from Glasgow Park to the Canal	> Few crosswalks and sidewalks on Glasgow and none across US 40 or SR 896 near Glasgow Ave > Bike lanes unprotected and need better connections to a larger network > Limited trail and pedestrian connectivity/paths (e.g., no formal connection between ball fields and Peoples Plaza)

*The **existing shared-use path** along US 40 provides a safe route for people walking and riding a bicycle*

*The wide Glasgow Avenue roadway leads to **fast speeds***

*There is **bus service** at Peoples Plaza*

*There are **few sidewalks and crossings***

ECONOMIC & MARKET CONDITIONS

A market analysis for this study was completed in 2015. Data and projections studied show that the broader Wilmington region is extremely healthy economically, and expected to build upon a strong base with robust growth in the short to mid-term period (2015-2020). The economy is being driven by high wage, office-using jobs clustered in Wilmington and Newark, but slowly moving towards Glasgow as the more traditional office cores become built out. The full market analysis for the Glasgow Avenue corridor can be found in the Appendix. A summary of key takeaways follows.

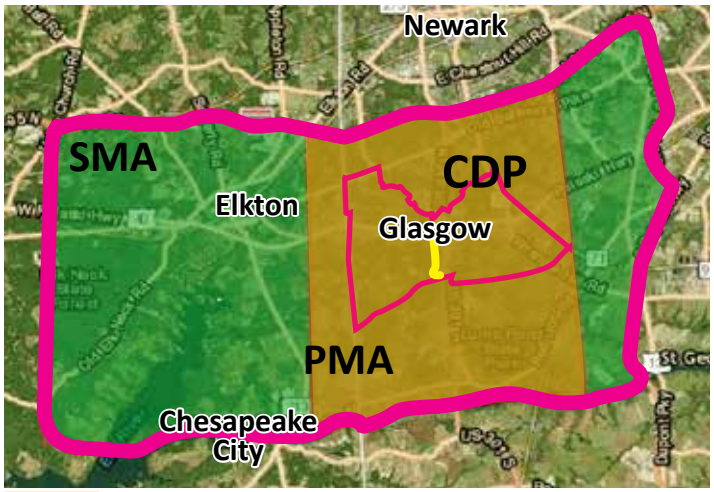
OVERARCHING TAKEAWAYS

- The primary driver of development will be the extent to which corridor improvements can **create a welcoming, comfortable, and interactive environment for visitors and residents.**
- To be effective in creating an improved sense of place and fostering an active community, **policies must enhance the overall quality of the corridor**, ensure that new developments will interact with and enhance the central Glasgow Avenue Corridor, and allow for careful curation of retail tenants.
- **Differentiation from other communities in this section of New Castle County is critical**.

DEMOGRAPHICS

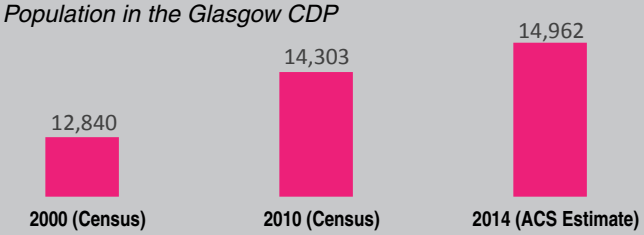
- The Glasgow CDP has seen a growth in population since 2000. Projections show an increase in household growth, single-family housing, median household incomes, and employment in the near term.
- Within the context of the region, the Glasgow market areas are comparatively young, with median ages 35-38.
- In both the broader Secondary Market Area (SMA) and Primary Market Area (PMA), the greatest number of households fall in the $100,000-$150,000 income range. Median annual income in the PMA is $80,000, and $74,000 in the SMA. However, there are also pockets of lower-income neighborhoods. The proportion of households in higher income bands, especially the $100,000-$150,000 band, is expected to grow between 2014 and 2019.
- The areas surrounding Glasgow Avenue have high home values, with much of the immediate area having median values of $250,000-$400,000.

Areas of Analysis

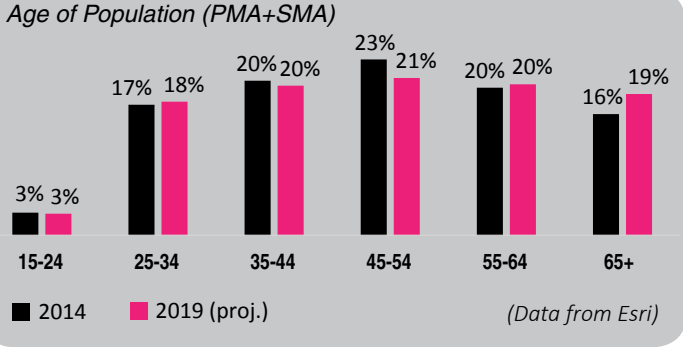


Primary Market Area (PMA) *(Data from Esri, RCLCO)*
Secondary Market Area (SMA)
Census-Designated Place (CDP)
Glasgow Avenue Study Area

Population in the Glasgow CDP

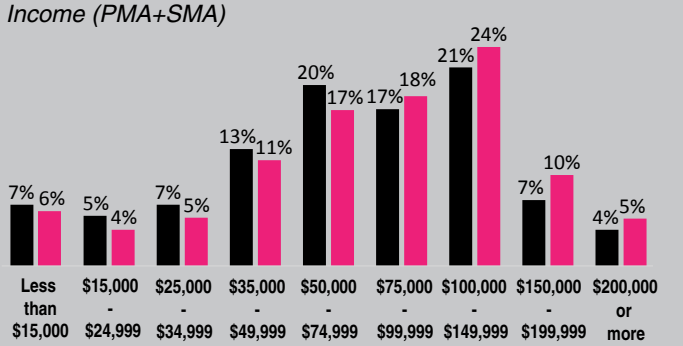


Age of Population (PMA+SMA)



(Data from Esri)

Income (PMA+SMA)



(Data from Esri)

RETAIL

- Retail in the corridor is dominated by long-term local tenants and traditional national tenants, both of which **have not been able to capture a high share of retail dollars in the region**.
- Low vacancy (2.5%-5% between 2012-2015) and moderate rental rates suggest a stable but relatively non-dynamic submarket, suggesting **an opportunity for a "first mover" to execute a new, contemporary vision** for what is possible in terms of retail development in the corridor. The proposed development at the southeast corner of Glasgow Avenue and US 40 is planned to include more than 300,000 square feet of retail, office, and medical space.
- The primary and secondary market areas of this study include a high proportion of households with high annual incomes, high existing home values, and a core financial stability that is **supportive of much higher quality retail than currently exists** along the US 40 corridor.

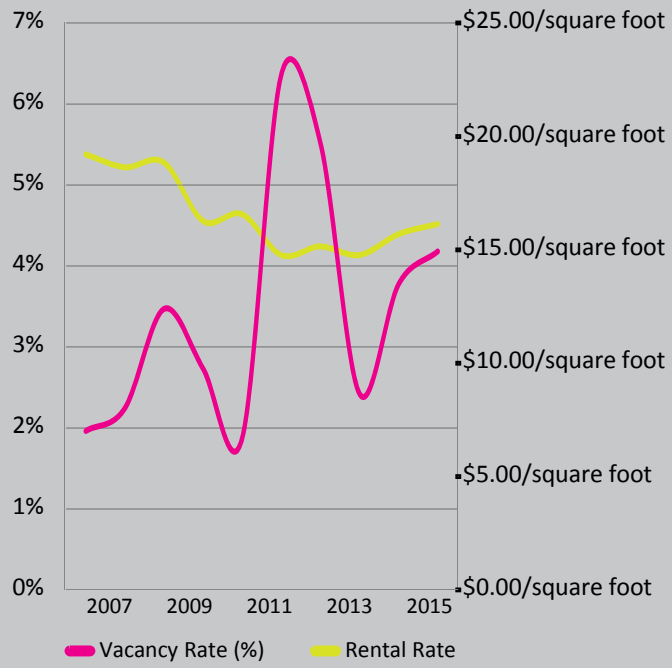
OFFICE

- Due to the fairly robust pipeline of office projects along the US 40 corridor and a lack of robust demand drivers (such as major preexisting employers or superior transportation connectivity compared to other regional submarkets), an office development opportunity is likely a longer-term (next economic cycle) strategy.
- To support substantial office development in the Glasgow Avenue Corridor, office space would need to attract companies oriented more towards corporate uses. **There is an opportunity to attract these corporate users if a walkable, lifestyle retail center can mark the Glasgow Avenue Corridor as an active place, but only after substantial placemaking has occurred**.

RESIDENTIAL

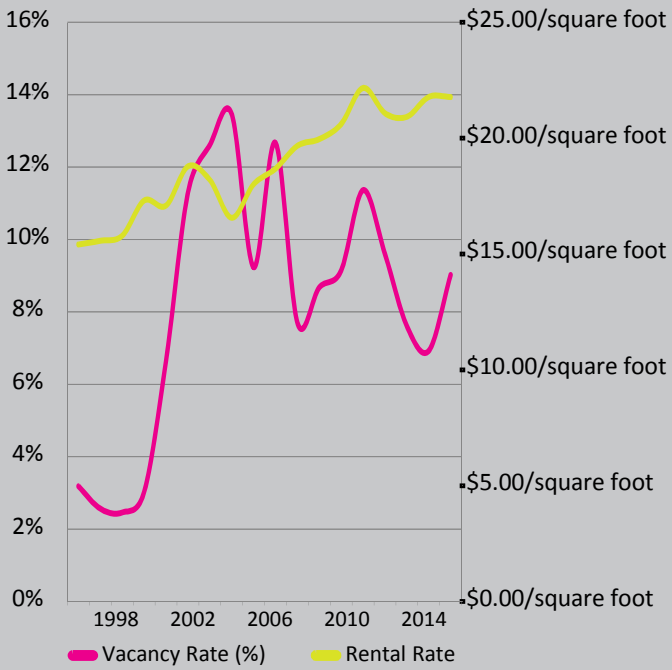
- A niche residential development opportunity in the near term would feasibly take the form of a limited offering (24-41 units) of for-rent apartments above new retail or a similarly limited offering (10-15 units) of attached for-sale townhomes, based on a quantitative study of the prevailing depth of rental demand and the kinds of products that work in conjunction with walkable retail centers.
- Given the robust development activity closer in to the University of Delaware of purpose-built student rental housing, there is a limited opportunity for capturing any substantial student demand along the Glasgow Avenue Corridor.
- There is a limited opportunity for regional-drawing or destination senior housing as those are generally located closer to the core of major MSAs or in destination markets outright.

Retail Rental Rate and Vacancy Rate, 2006-2015 (PMA)



(CoStar, RCLCO)

Office Rental Rate and Vacancy Rate, 1996-2014 (SMA)



(CoStar, RCLCO)

SUMMARY OF MARKET-RELATED OPPORTUNITIES AND CONSTRAINTS

Category	Opportunities	Challenges
Commercial (Office/Retail)	> Potential demand for higher-end, higher-density, lifestyle-driven retail development > Residents are generally leaving to shop for clothing and accessories, general merchandise, electronics, sporting goods, building/garden supplies because it is not highly available in the study area > Highly-used medical offices are a draw	> Limited market for retail in a similar format to Peoples Plaza > Surplus of food and beverage stores > Retail market has struggled to recover from the recession, and rental rates have not fully returned > No significant draw to this area for out-of-state or regional shoppers (residents have stated that there are a lot of out-of-state shoppers, but market studies indicate otherwise). Current tenant mix is not positioned for regional or community market capture
Residential	> Some for-rent apartment demand above retail or attached for-sale townhomes within mixed use development > Moderate demand for residential development (apartments, townhouses, and live/work units) > New residential projects on Glasgow Avenue, just north and south of the study area, confirm locational appeal and potential demand for redevelopment	> Mixed-use residential doesn't currently exist in the area, so it is difficult to gauge demand > Relatively low propensity to rent in the area > For-rent apartments are limited and untested in this submarket, and would require developer buy-in > New residential development is drivable but not walkable to study area
Location	> Proximity to I-95 (~3 miles) and busy US 40	> Area not visible from I-95

*There are **active redevelopment sites***

*Existing retail is valued, but **provides little draw for shoppers from out of the area***

***Medical offices** are a corridor destination*

*Adjacent single-family neighborhoods are strong, though **other types of residential units have had little testing locally***

4 RECOMMENDATIONS

This section provides four sets of recommendations, which respond to the goals of the study, the needs of the corridor, and input from a variety of stakeholders (including the community and partner agencies).

TYPES OF RECOMMENDATIONS PROVIDED

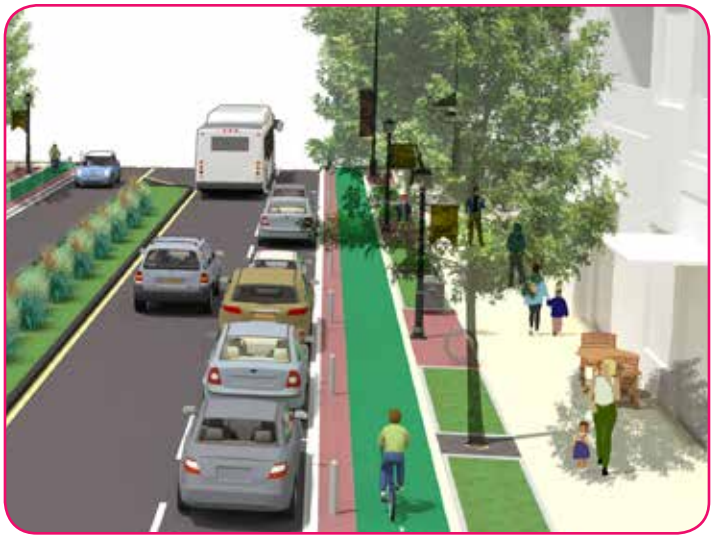
CHARACTER DISTRICT RECOMMENDATIONS

> Four Character Districts embrace and enhance existing conditions to foster distinct districts with a cohesive corridor theme.

GATEWAY RECOMMENDATIONS

> Gateway treatments make it clear that people entering Glasgow Avenue are entering a community with a specific identity.

COMPLETE STREET RECOMMENDATIONS



> Strategies for improving the corridor for all residents and visitors, including people driving, walking, riding bicycles, and taking the bus.

DEVELOPMENT RECOMMENDATIONS

> An overview of how to use this plan to improve the built environment along Glasgow Avenue.

CHARACTER DISTRICT RECOMMENDATIONS

VILLAGE CENTER DISTRICT

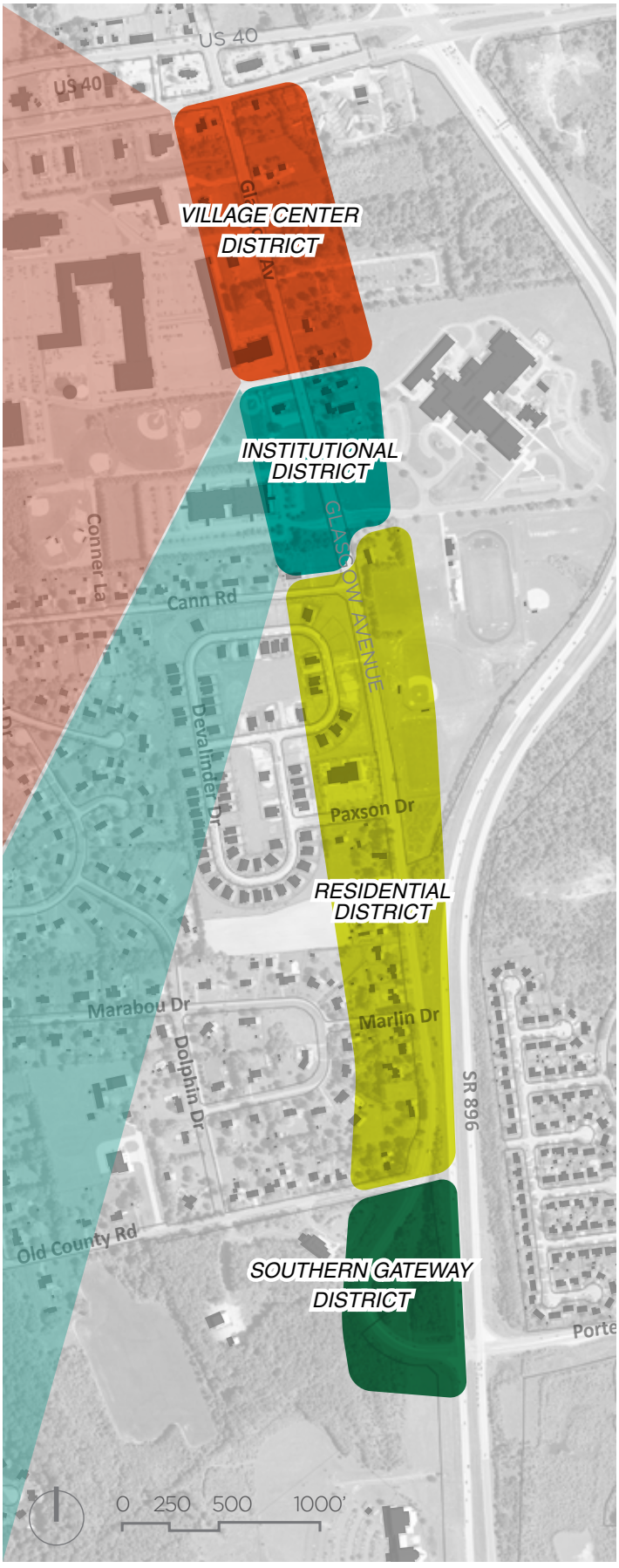
The commercial core of Glasgow Avenue

- Establish a “Main Street” development pattern on both sides of the street, including a mix of uses and a unified street frontage with buildings located adjacent to the sidewalks
- Establish a “Main Street” roadway character:
  - Wide sidewalks and street furniture
  - Buffered bike lanes
  - Easier access to improved bus stops
  - Parallel on-street parking, as space allows
  - Fewer curb cuts
  - Pedestrian-scale lighting and signage
- Create parks and civic gathering spaces

INSTITUTIONAL DISTRICT

Home to educational, medical, and recreational institutions

- Maintain a cohesive “Main Street” roadway character, creating a transition between the Village Center and Residential Districts
- Transition to a “Main Street” development pattern over time as parcels redevelop



RESIDENTIAL DISTRICT

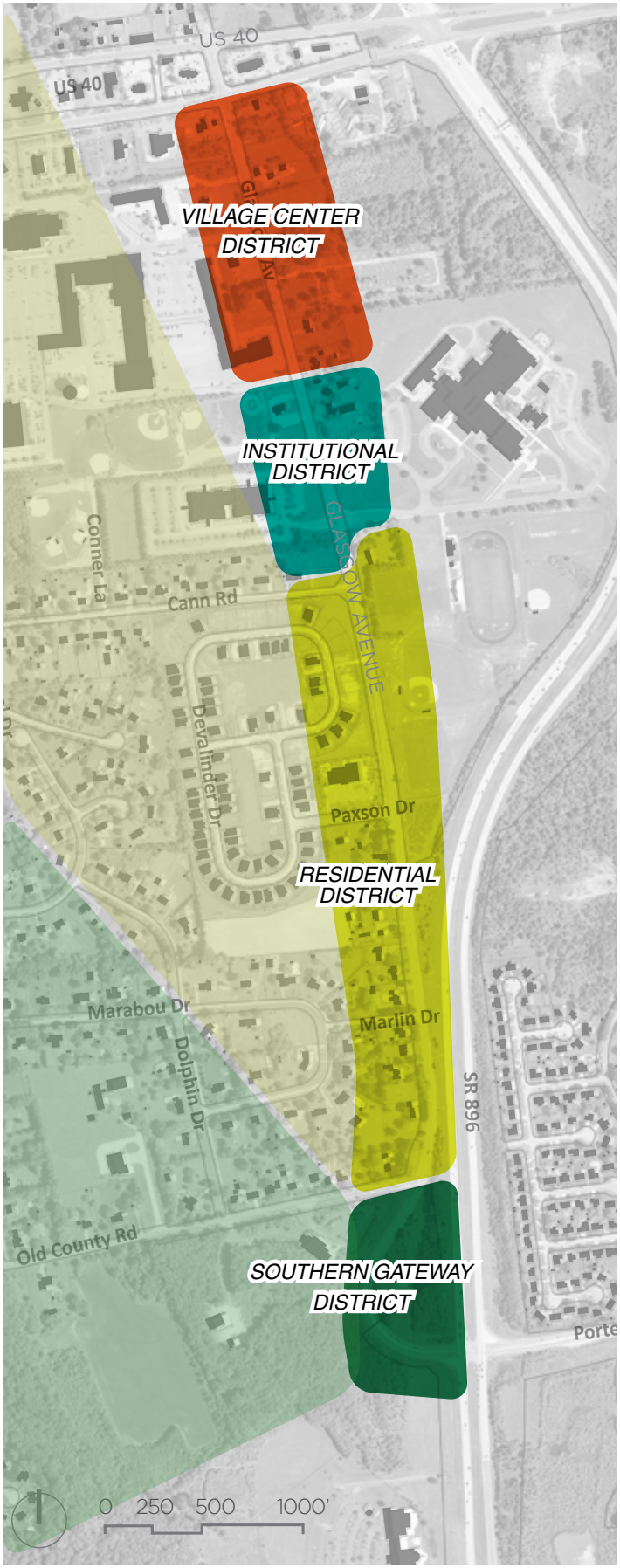
Primarily residential uses

> Create a parkway environment
> Use trees and landscaping to buffer pedestrians, bicyclists, and homes from traffic

SOUTHERN GATEWAY DISTRICT

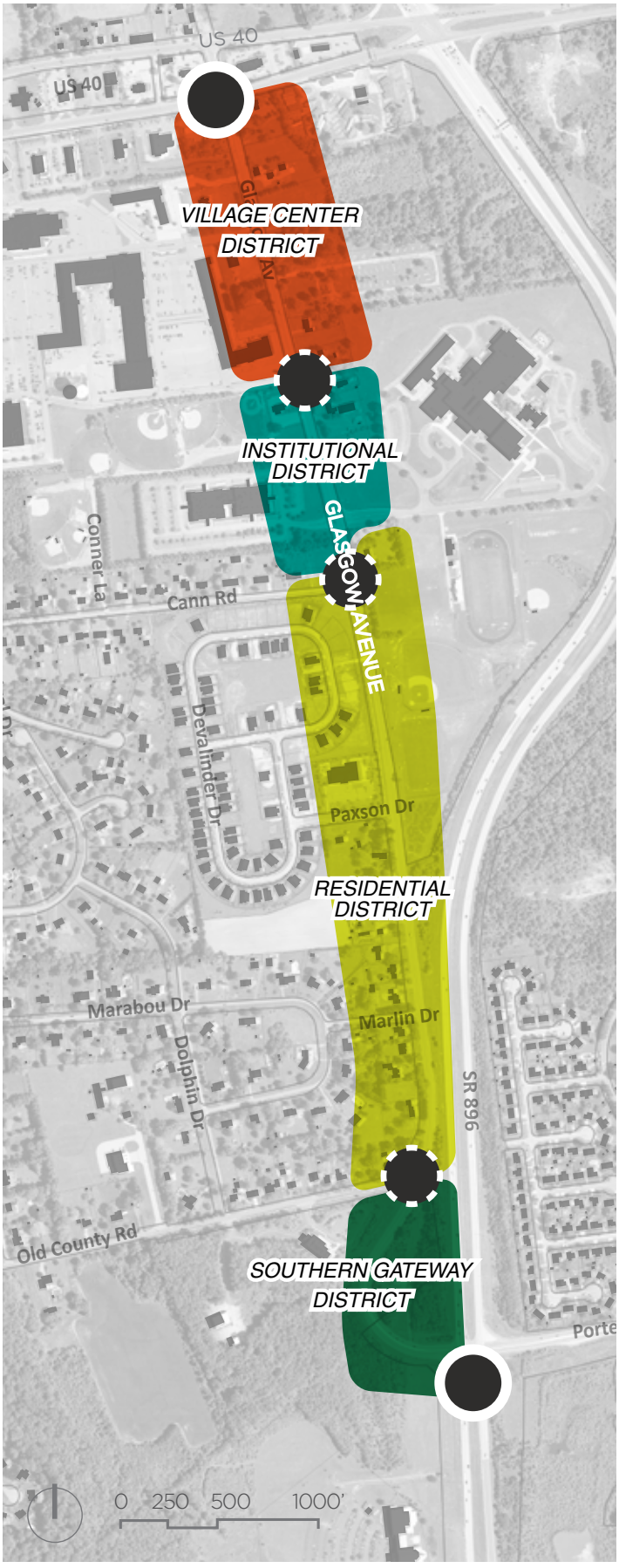
Transition between residential and rural/nature character

> Maintain a parkway environment and wide buffer for pedestrians and bicyclists
> Explore creation of interpretive trails integrated with the existing wetland area

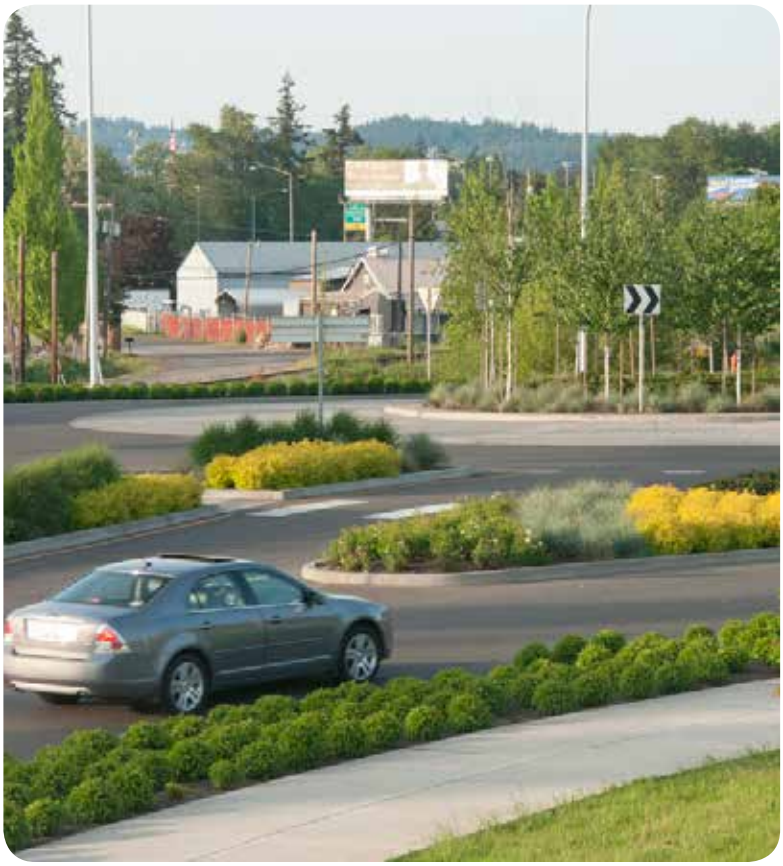


GATEWAY RECOMMENDATIONS

- Primary gateways are recommended for the entrances to the Glasgow Avenue corridor from US 40 and SR 896.
- Secondary gateways provide transitions between character districts, and are recommended for the entrances to the corridor from Old County Road and Cann Road.
- Gateway treatments may include:
  - Planting
  - Directional signage / wayfinding
  - Welcome signs
  - Art
  - Plazas
  - Unique lighting fixtures



GATEWAY TREATMENT EXAMPLES



MULTIMODAL RECOMMENDATIONS

OVERVIEW

The current diversity of uses on Glasgow Avenue is ideal for a "village center" or "Main Street" environment, but the streetscape elements are configured such that it is difficult, if not dangerous, to walk or ride a bicycle.

Many elements contribute to the safety and comfort of traveling on and along a street. In general, Glasgow Avenue's current design encourages driving and actively discourages all people from walking, and all but the most practiced from biking.

The following elements are recommended to improve the corridor for all residents and visitors:

- **CONTINUOUS SIDEWALKS OR PATHS:** Create a sidewalk network along Glasgow to encourage people to park once and explore the area on foot.
- **ENHANCED BICYCLE FACILITIES**: Move bicycle lanes inside of the curb, and add bollards and a buffer in the busier northern segment of the corridor, in order to encourage more people to ride, and to provide protection for pedestrians. A multi-use path in the southern segment of the corridor would provide a shared space for people on foot and people riding bicycles.
- **SHADE TREES**: Enhance the canopy of street trees to provide shade for the sidewalk and begin to create a sense of enclosure that is comfortable for people traveling on foot. There is also an opportunity to enhance stormwater management to reduce flooding along Glasgow Avenue.
- **STREET PARKING**: On-street parking provides an additional buffer from traffic and easy access to new street-side commercial development in the northern end of the corridor.
- **ROUNDABOUTS**: Two new roundabouts will help to slow traffic and ease difficulties with entering Glasgow Avenue from Old County Road and Paxson Drive.
- **IMPROVED BUILDING AND SITE DESIGN:** Filling in vacant lots with buildings that are constructed to the sidewalk's edge creates enclosure that slows traffic and improves the pedestrian environment.
- **POTENTIAL NEW BUS ROUTES AND/OR AMENITIES**: As development occurs, investigate the potential for expanded service and/or stops along and near to Glasgow Avenue.

The following section first shows overview graphics for the entire corridor, and then describes recommendations for the northern part of the corridor (Village Center and Institutional Districts) and the southern part of the corridor (Residential and Southern Gateway Districts) in greater detail.

BICYCLE AND PEDESTRIAN ACCOMMODATIONS

The recommendations include four types of facilities, all of which should be accompanied by marked crossings at all intersections and driveways:

SIDEWALKS

Sidewalks are facilities to be used only by people walking, jogging, etc.

SHARED PATH

For this plan, shared paths are those where people walking and people bicycling share the same space.

MULTI-USE PATH

For this plan, multi-use paths are those where people walking and people riding bicycles use paths that are adjacent and at the same level, but utilize signage or different treatments to indicate separate spaces.

SEPARATED BIKE LANE

A separated bike lane is a bicyclist-only facility located within or directly adjacent to the roadway and that is physically separated from motor vehicle traffic with a vertical element.

Corridor recommendations summary map

RECOMMENDED MULTIMODAL IMPROVEMENTS FOR THE STUDY AREA

- *Sidewalk*
- *Multi-use path (with separate spaces for walking and bicycling)*
- *Separated bike lane (elevated to sidewalk level)*
- *Roundabout*

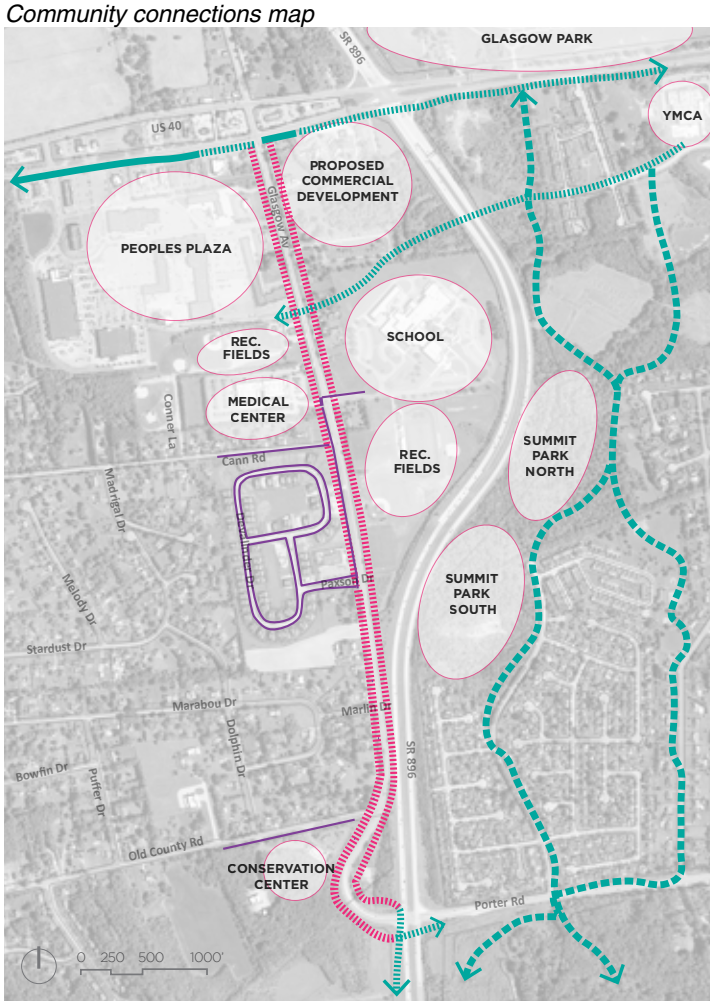
EXISTING AND RECOMMENDED CONNECTIONS OUTSIDE THE STUDY AREA

- *Shared path*

CONNECTIONS TO OTHER AREAS

The proposed concept shown on the following pages creates linkages along the corridor. Enhanced connections to destinations and residential areas outside the corridor are also important to creating a walkable, bikeable community.

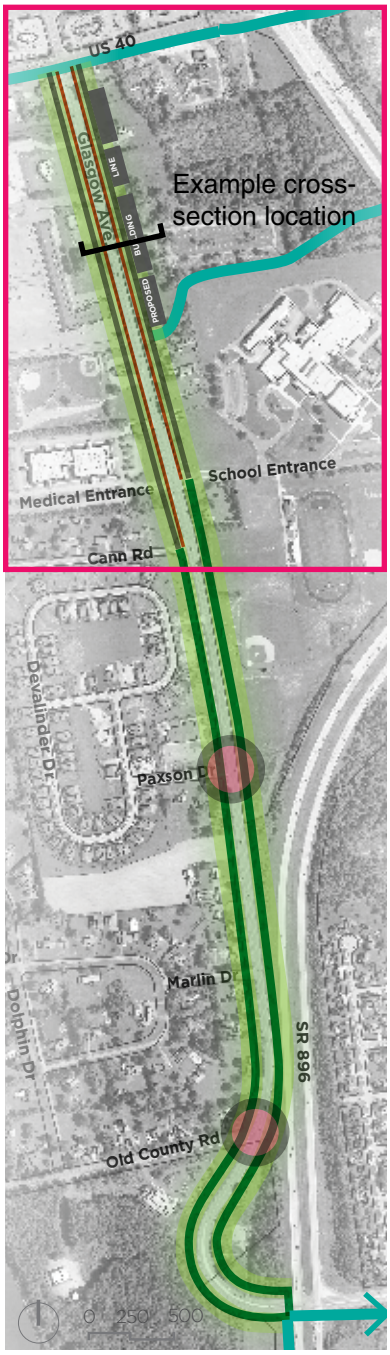
Community connections map



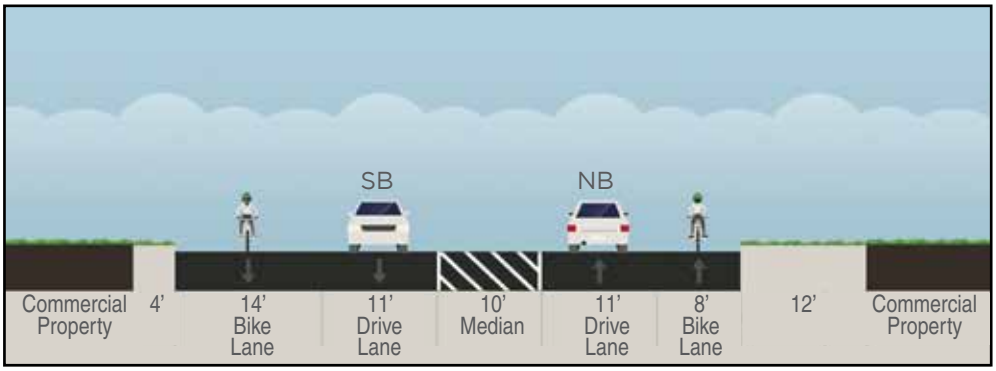
- *Key Destinations*
- *Existing Shared Paths*
- *Planned Trails / Shared Paths*
- *Glasgow Avenue Proposed Improvements (see map, left)*
- *Existing Sidewalks On / Near Glasgow Ave*
- *Other Potential Connections*

NORTHERN SECTION OF THE CORRIDOR (VILLAGE CENTER AND INSTITUTIONAL DISTRICTS)

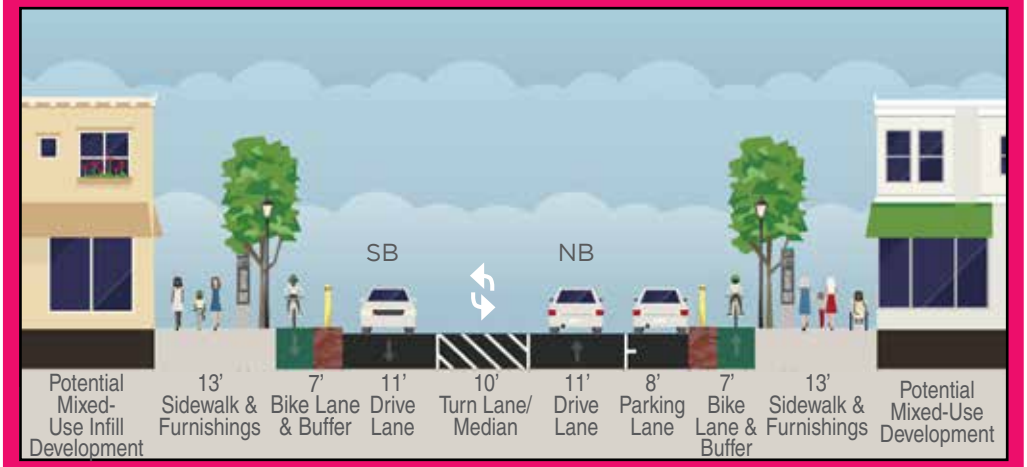
For this section of the corridor, the plan proposes an elevated bike lane and sidewalks along both sides of Glasgow Avenue. The cross sections on this page show an example of the current and proposed street design for the section marked on the map.



EXAMPLE: EXISTING CROSS SECTION



EXAMPLE: RECOMMENDED CROSS SECTION



ON-STREET PARKING WOULD REQUIRE ADDITIONAL RIGHT-OF-WAY

RECOMMENDED CROSS SECTION VISUALIZATION

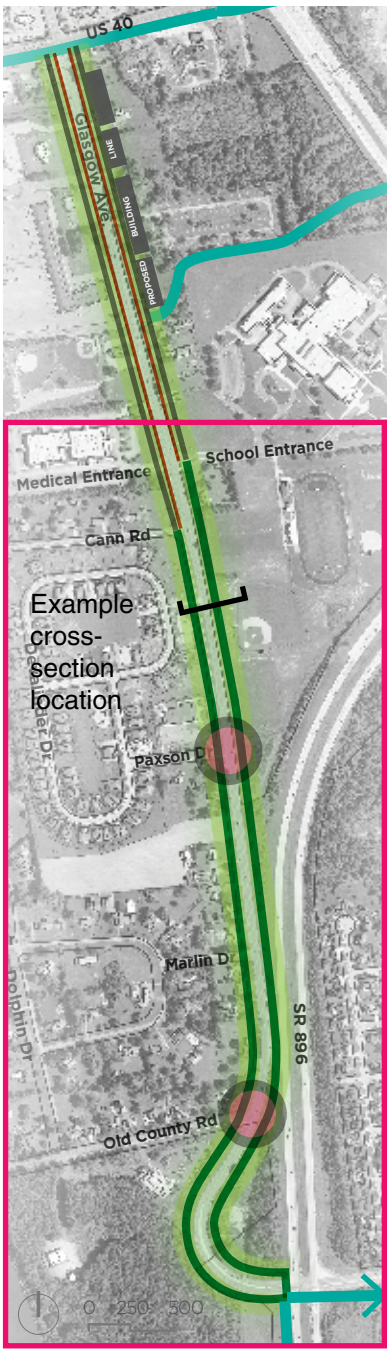
RECOMMENDED CROSS SECTION - EXAMPLES FROM ELSEWHERE

MISSOULA, MONTANA

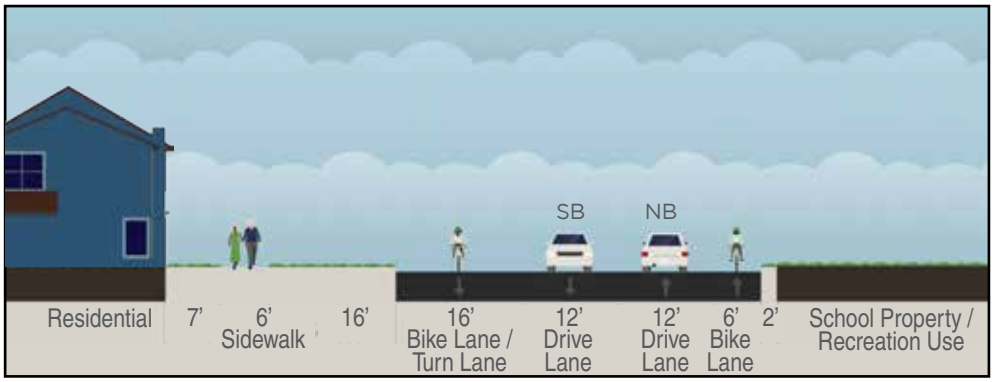
INDIANAPOLIS, INDIANA

SOUTHERN SECTION OF THE CORRIDOR (RESIDENTIAL AND SOUTHERN GATEWAY DISTRICTS)

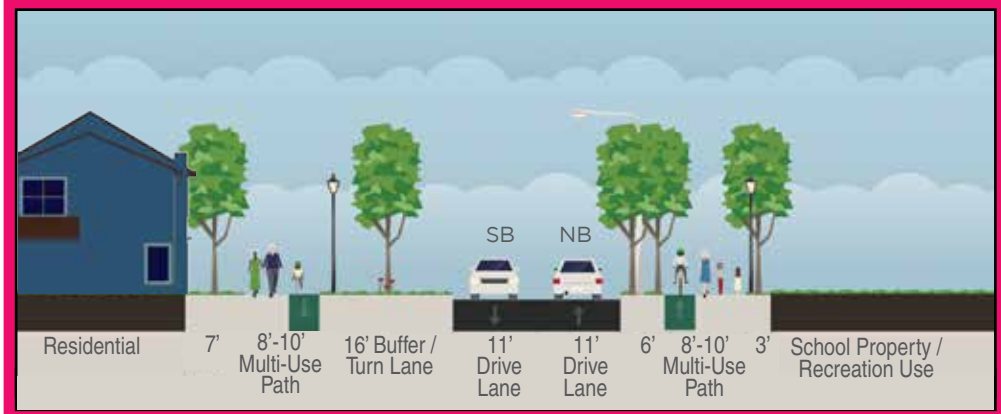
For this section of the corridor, the plan proposes a multi-use path along both sides of Glasgow Avenue. The cross sections on this page show an example of the current and proposed street design for the section marked on the map.



EXAMPLE: EXISTING CROSS SECTION



EXAMPLE: RECOMMENDED CROSS SECTION



RECOMMENDED CROSS SECTION VISUALIZATION

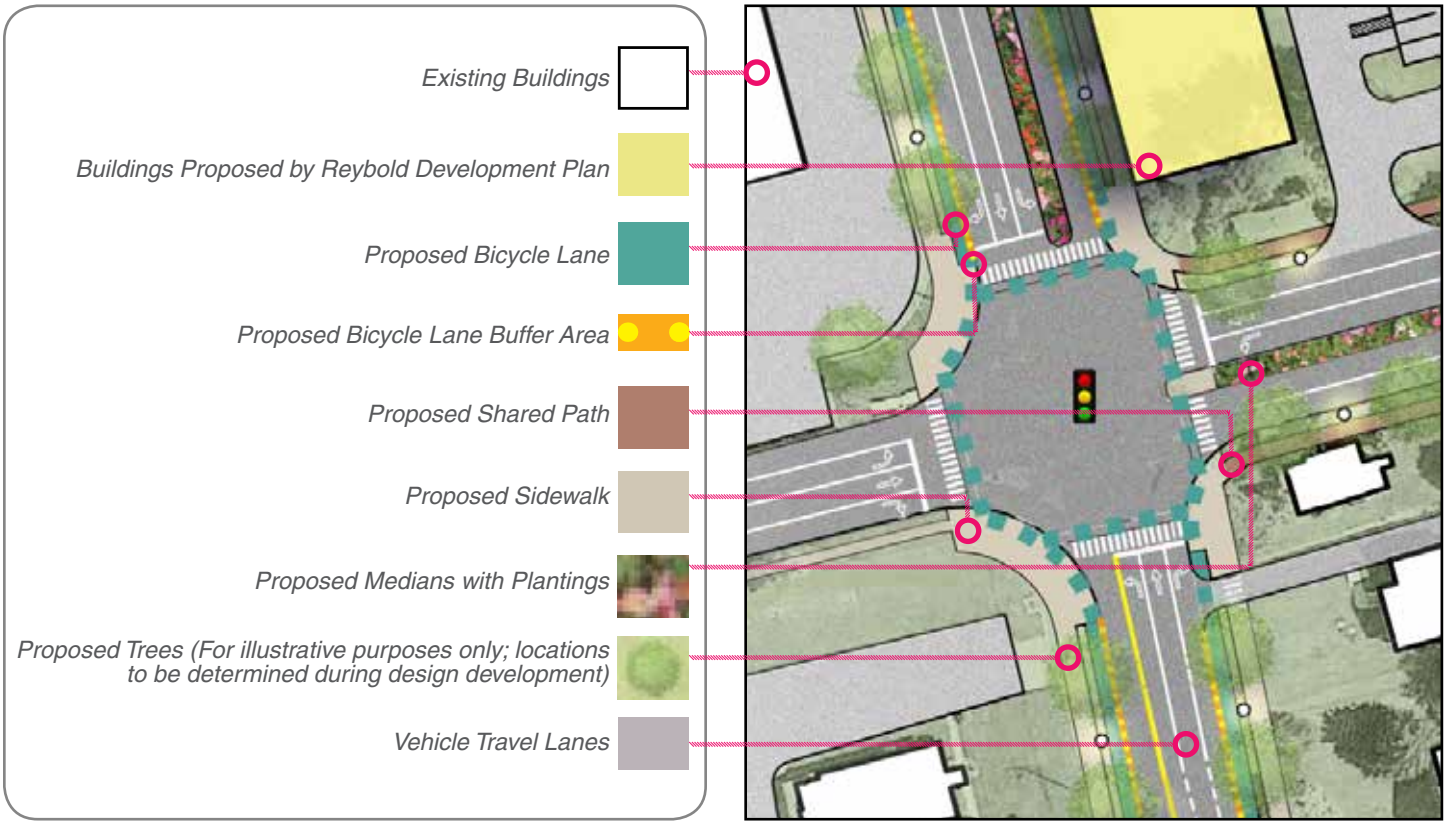
RECOMMENDED CROSS SECTION - EXAMPLES FROM ELSEWHERE

ILLUSTRATIVE PLAN

The graphics on the following pages illustrate how the recommended cross sections described on the previous pages could be designed along the entire corridor. This is only a conceptual graphic, meant to demonstrate the principles and guidelines described in this plan. The full illustrative plan can be found in the Appendix.

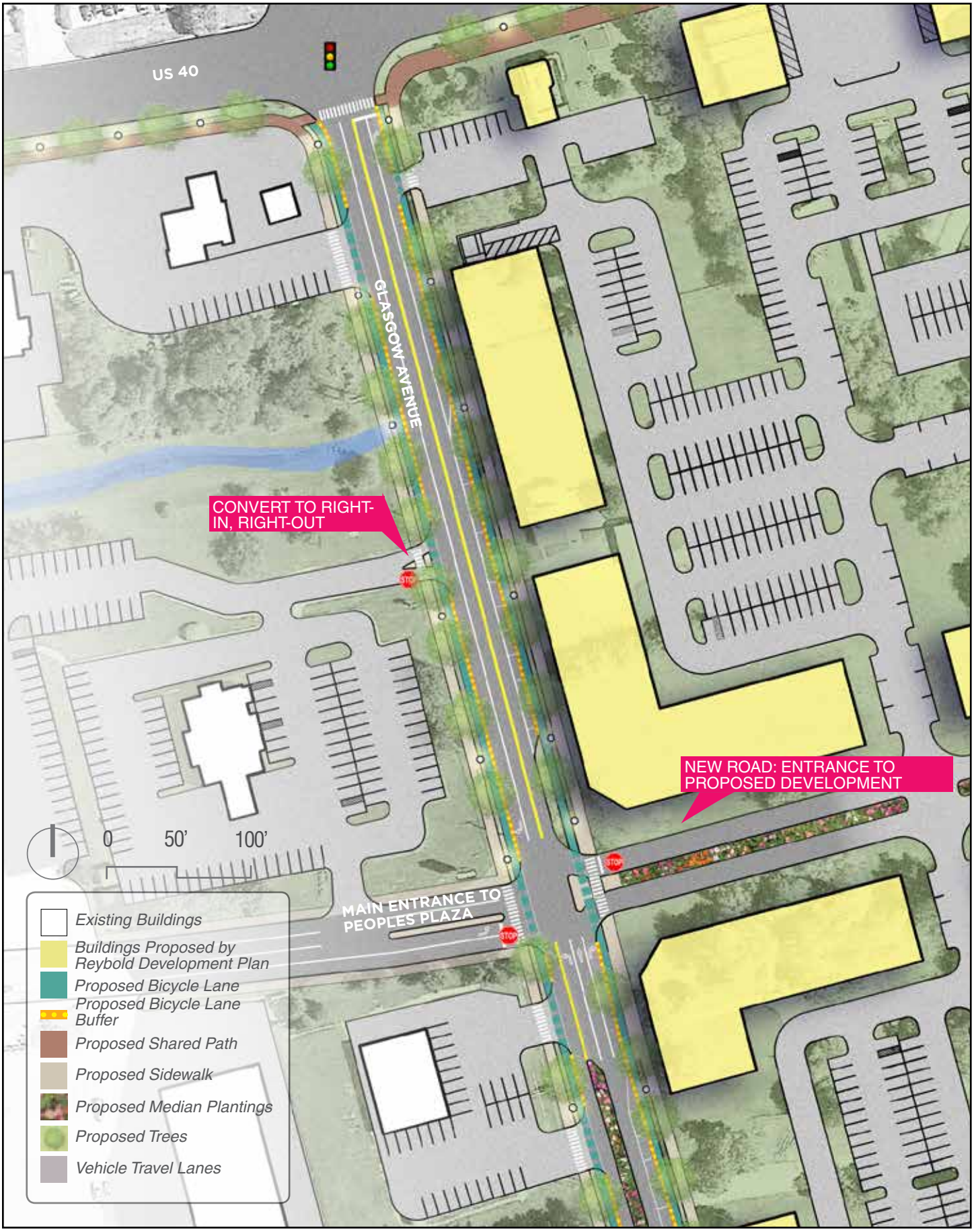
PLAN KEY

Each section of illustrative plan has a key that will help identify various parts of the recommended streetscape. Please note that colors used in the plan are not suggested for implementation; they are being used to distinguish different elements.

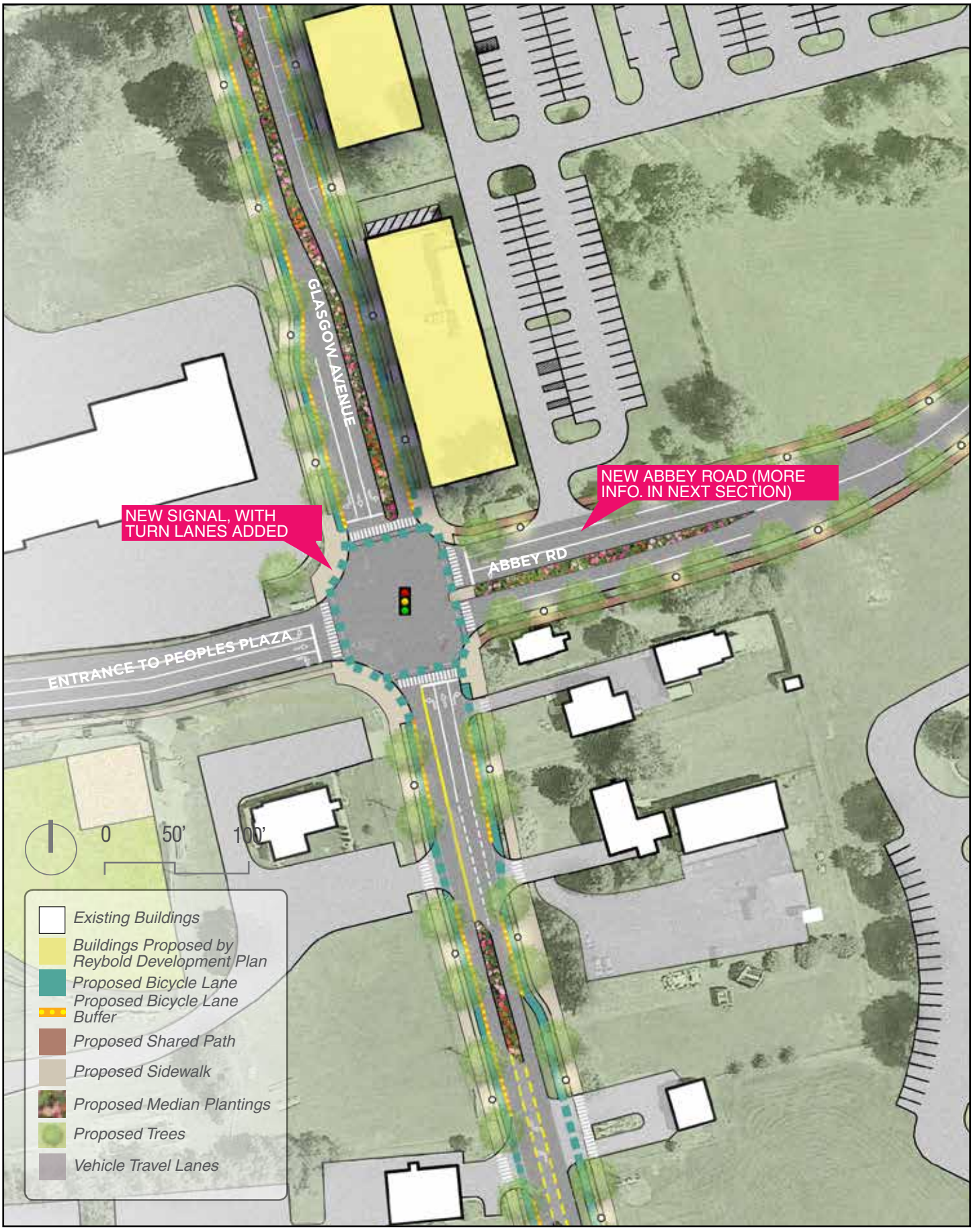


Example map to demonstrate use of key for the illustrative plan

Illustrative plan (page 1 of 7)



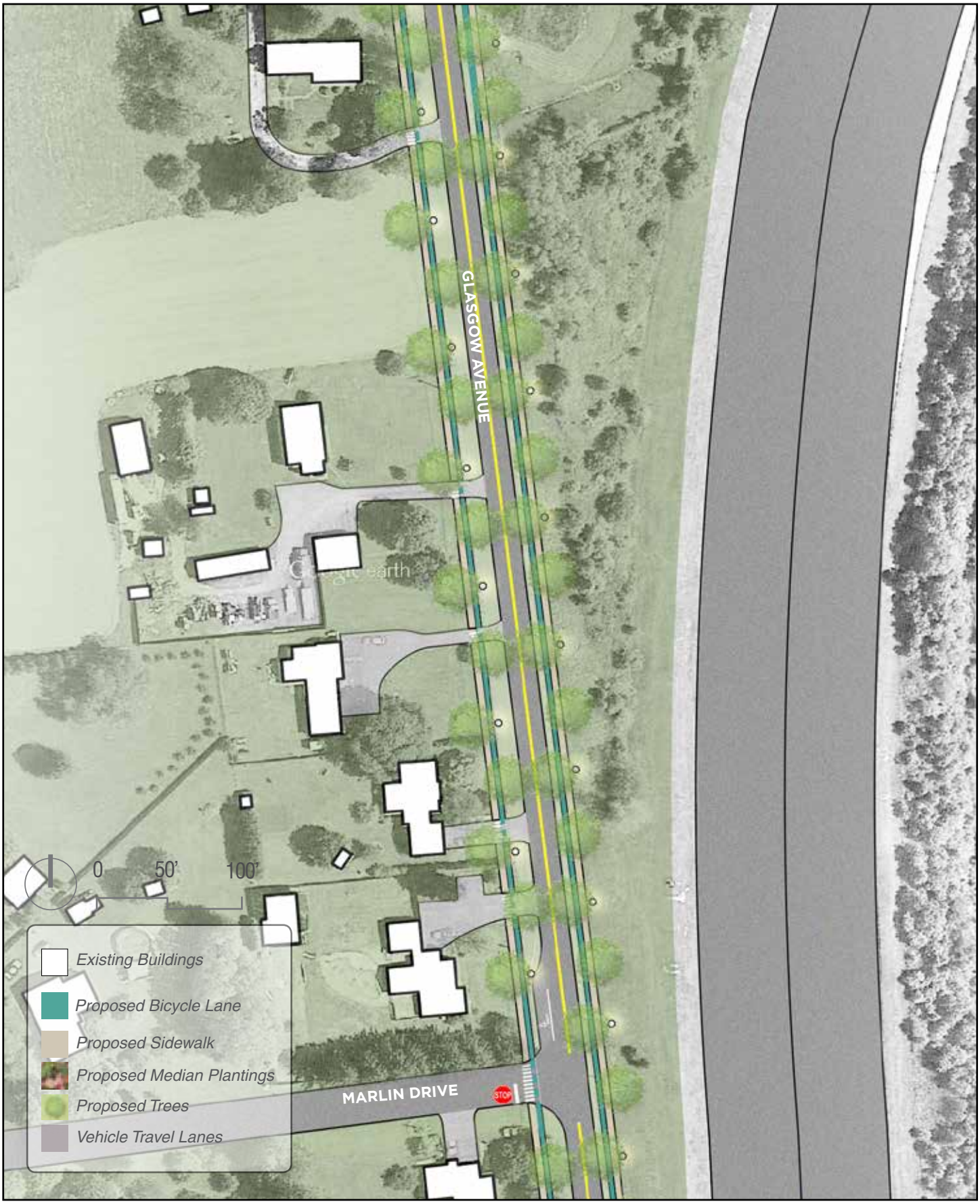
Illustrative plan (page 2 of 7)



Illustrative plan (page 3 of 7)

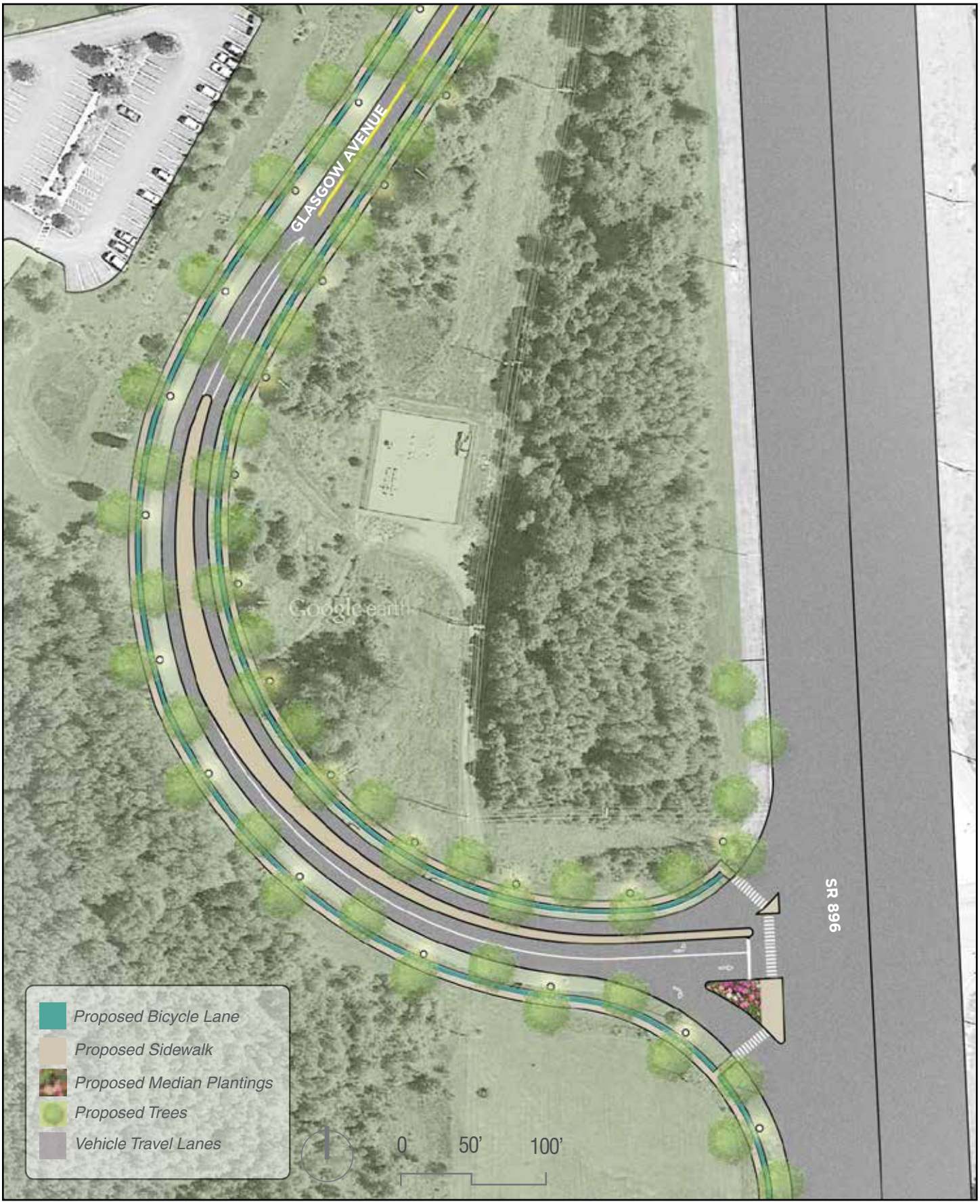
Illustrative plan (page 4 of 7)

Illustrative plan (page 5 of 7)



Illustrative plan (page 6 of 7)

Illustrative plan (page 7 of 7)



RIGHT-OF-WAY HIGHLIGHTS OF PROPOSED MULTIMODAL IMPROVEMENTS

ROUNDABOUTS AT PAXSON DRIVE AND OLD COUNTY ROAD

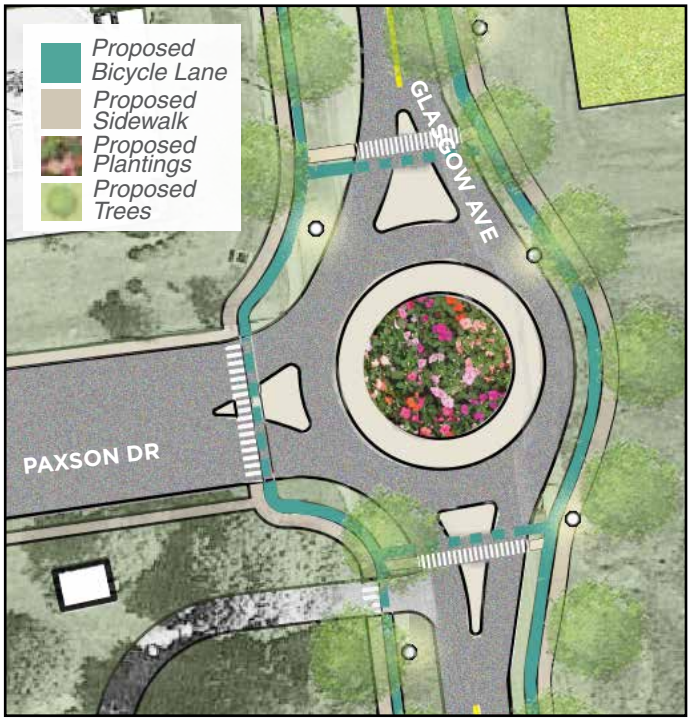
The intersections of Old County Road and Glasgow Avenue, and Paxson Drive and Glasgow Avenue, are currently stop-controlled. The planning team recommends a roundabout at each intersection.

A roundabout would help to address the concerns expressed by the community at several meetings: concerns about speeding on Glasgow Avenue and difficulty making turns onto Glasgow. When properly designed, roundabouts create a low speed environment that reduces the number and severity of crashes. There is a reduction of approx. 35% in the total crash rate when compared to other types of intersection controls, and a reduction in severity of crashes by as much as 76%. (Transportation Research Board, 2006)

Changes have been made in recent years to improve the safety of pedestrians at roundabouts (e.g., moving the crosswalks at least one vehicle length back from the outer lane of the roundabout; and the installation of splinter islands that provide pedestrian refuge between vehicles entering or exiting the roundabout). Special treatment may be needed for the visually impaired at a roundabout, and should be considered during the design process.

CURRENT CONDITIONS

POTENTIAL FUTURE CONDITIONS



PROPOSED ABBEY ROAD SERVICE ROAD

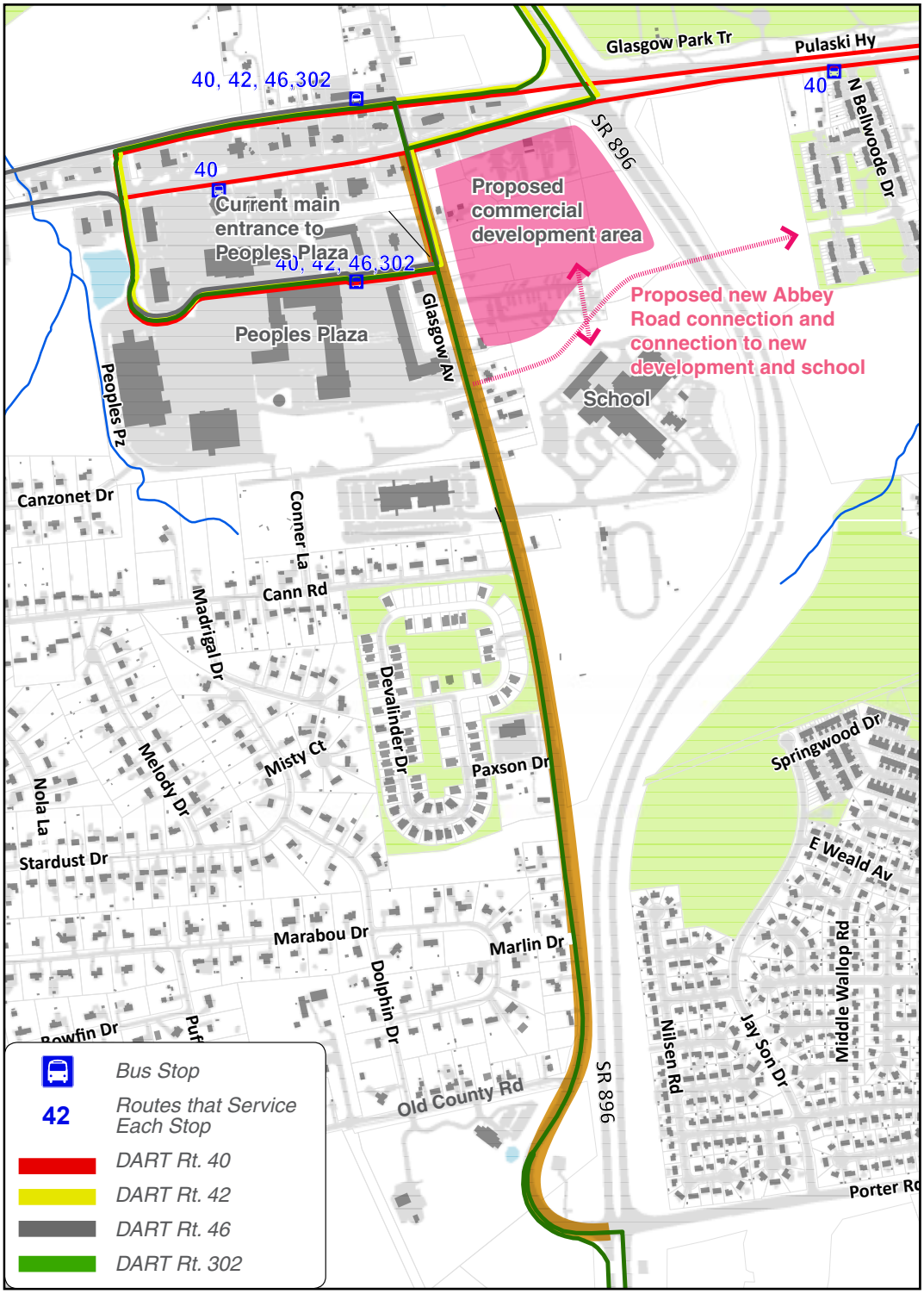
As part of their proposed development, Reybold Development has included the construction of a new service road, Abbey Road, which could eventually connect Glasgow Avenue to George Williams Way, east of Delaware Route 896. The conceptual graphic below shows one way that the proposed Abbey Road intersection could be designed. The new road would connect directly from the proposed new development on the east side of Glasgow Avenue into the southernmost Peoples Plaza entrance, adding a traffic signal to control the flow of vehicles at this high-crash intersection. The road would also include bicycle and pedestrian accommodations. Early stages of development would not include a connection over SR 896, but this could be explored in the future.

CURRENT CONDITIONS

POTENTIAL FUTURE CONDITIONS

BUS TRANSIT

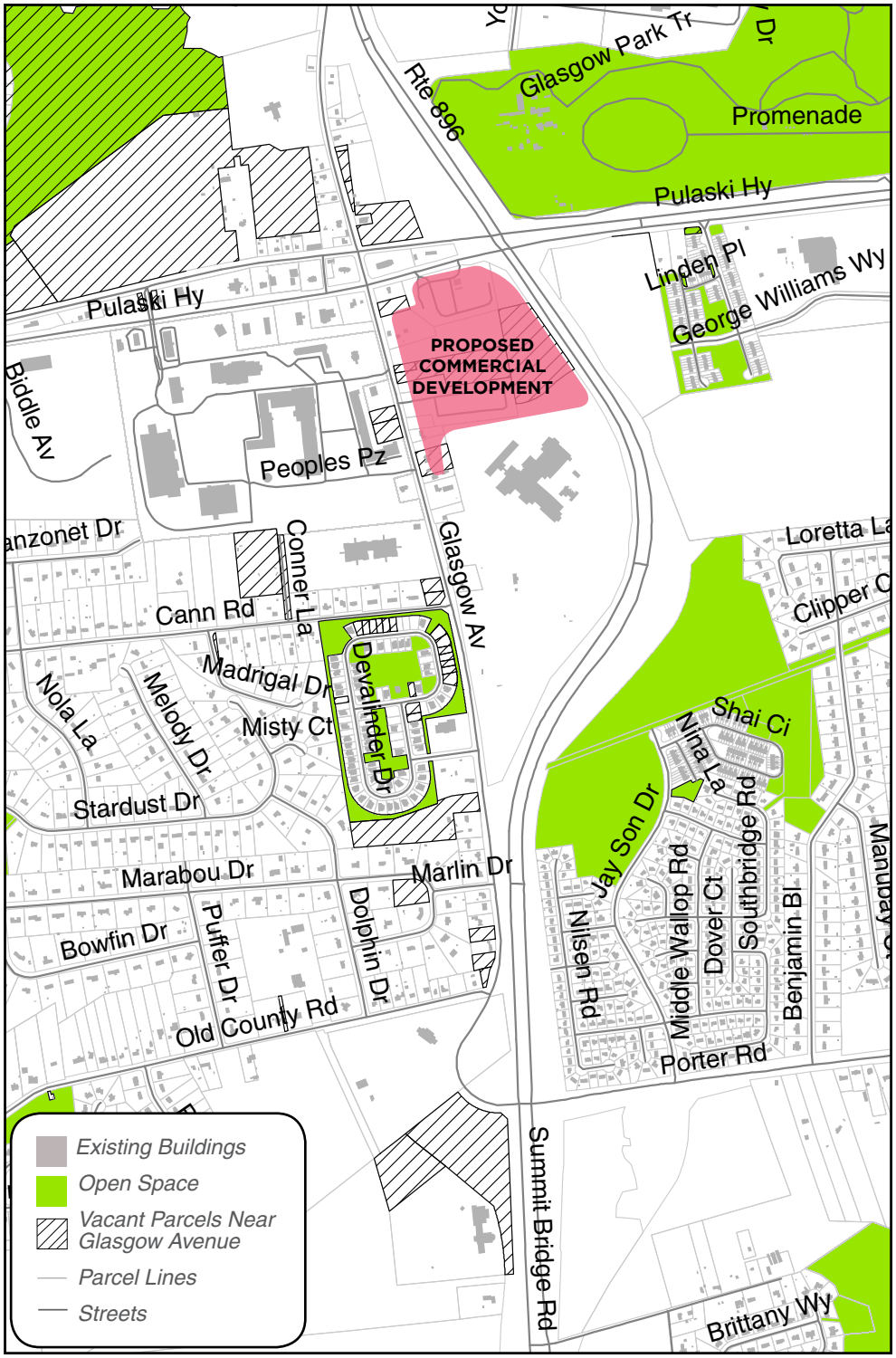
Currently, there is limited bus service on the Glasgow corridor. Future consideration should be given to expanding the bus route system to **include bus stops along Glasgow Avenue,** as well as a **potential route that would take advantage of the new Abbey Road connection** from Glasgow Avenue to George Williams Way**.** With the proposed commercial development's planned connection to Abbey Road, and a possible pedestrian path to the school on the south side of Abbey Road, **a transit stop on Abbey Road** would serve the majority of both existing and planned developments on the east side of Glasgow Avenue. Adjustments to bus service could also provide connections between the neighborhoods along and near Glasgow Avenue (including the southern end of the corridor), community services (such as the YMCA, State Police, and elementary school) on George Williams Way, and Glasgow Park.



DEVELOPMENT RECOMMENDATIONS

Activating vacant parcels with development, public parks, or other destinations fosters a more walkable, livable community. The completion of Glasgow Commons, the planned development across Glasgow Avenue from Peoples Plaza, will go a long way toward creation of a Main Street character in the northern end of the corridor. There are several other parcels adjacent to Glasgow Avenue which are vacant; these and/or other parcels may also be ready for redevelopment. These all present opportunities to support the Main Street vision.

Infill uses and scales should be appropriate to their locations along the corridor, but mixed use development in general may be desirable, particularly on the northern end of the corridor. Design guidelines in the following section provide developers and land owners with strategies for fostering the desired character of each district.



5 IMPLEMENTATION

The Glasgow Avenue Design Guidelines provide a framework for implementation of the recommended streetscape and development concepts.

INTRODUCTION TO THE GUIDELINES

The intent of the design guidelines is to provide property owners, developers, WILMAPCO, DelDOT, and New Castle County with a clear understanding of **redevelopment principles to which development and re-development of both the roadway and adjacent parcels should adhere in order to work toward a Main Street vision**.

The guidelines are intended to suggest ways to **enhance the character of the built environment** through the provision of specific written and visual references to encourage an enhanced sense of place, higher quality public realm and buildings, improved aesthetics, and the creation of an area identity.

The guidelines are applicable for any new development and/or redevelopment initiatives along Glasgow Avenue. For example, all site redevelopment projects along the corridor should be required to adhere to a detailed set of site-specific guidelines consistent with the Glasgow Avenue Main Street Study and its design recommendations. The design of all transportation improvements will also need to follow all applicable national and state design guidelines.

The guidelines are divided into two sections, as described below. The guidelines for each section comprise overall design principles and a matrix showing detailed design guidelines for the four proposed character area districts along Glasgow Avenue.

THE SITE AND BUILDING DESIGN GUIDELINES target the built environment around the street: the building envelope and its features along Glasgow Avenue, access to buildings, and off-street parking lots immediately adjacent to the Glasgow Avenue corridor.

THE STREET DESIGN GUIDELINES focus on public realm areas along Glasgow Avenue. This includes building amenity zones, sidewalks, bike lanes, multi-use paths, tree lawn areas, auto lanes, and any applicable medians.

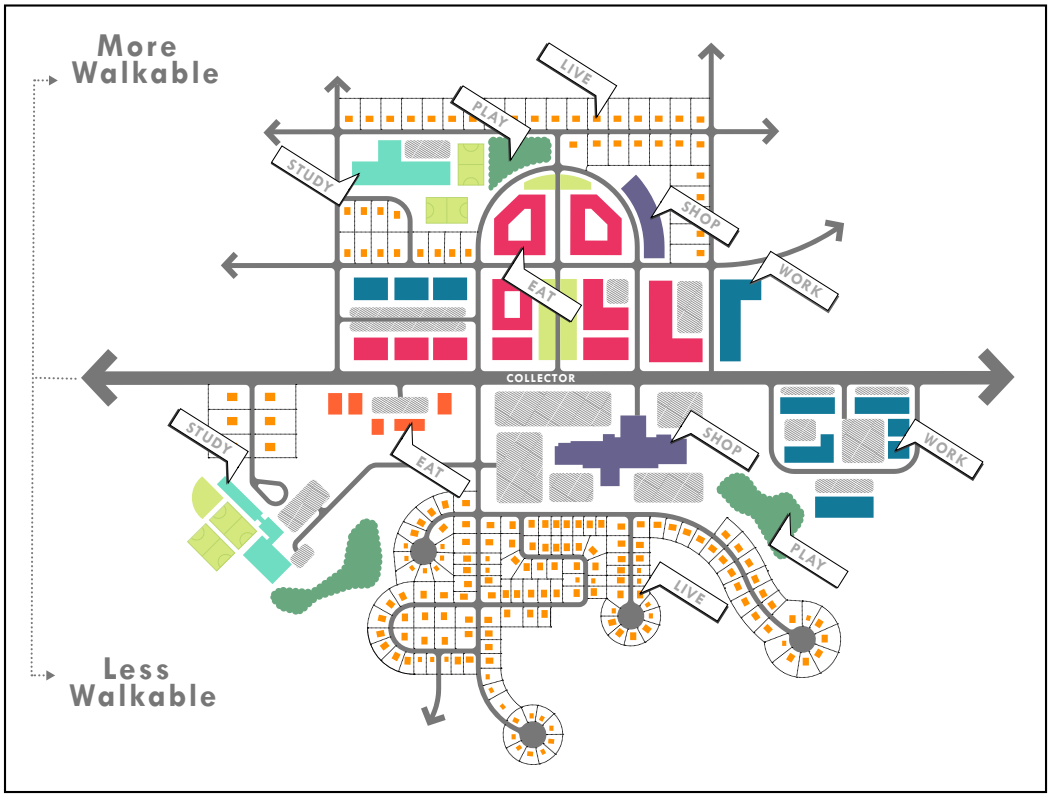
SITE & BUILDING DESIGN GUIDELINES

The graphics on this page and the next demonstrate a few general guidelines regarding sites and buildings. A detailed matrix of guidelines follows.

DESIGN PRINCIPLES

LAND USE, CONNECTIVITY, & PARKING

Walkable communities require connectivity and a mix of land uses. This diagram shows a generic set of land uses configured in two different ways. The area shown below the collector street reflects automobile convenience (parking in large lots in front of buildings, and buildings spread apart and connected by wide streets that encourage speeding). Above the collector, the same land uses are configured for easy and safe walking access (parking behind buildings, and buildings closer together to support narrow, pedestrian-friendly, slow-speed streets).



CHARACTER


PARKWAY CHARACTER EXAMPLE


MAIN STREET CHARACTER EXAMPLE

The character of a street is defined by many features, including the scale of buildings, the types of visual cues provided, and the building setback. The Glasgow Avenue vision includes several character areas, which maintain an overall cohesive character, thus establishing a comfortable sense of “place” along the street.

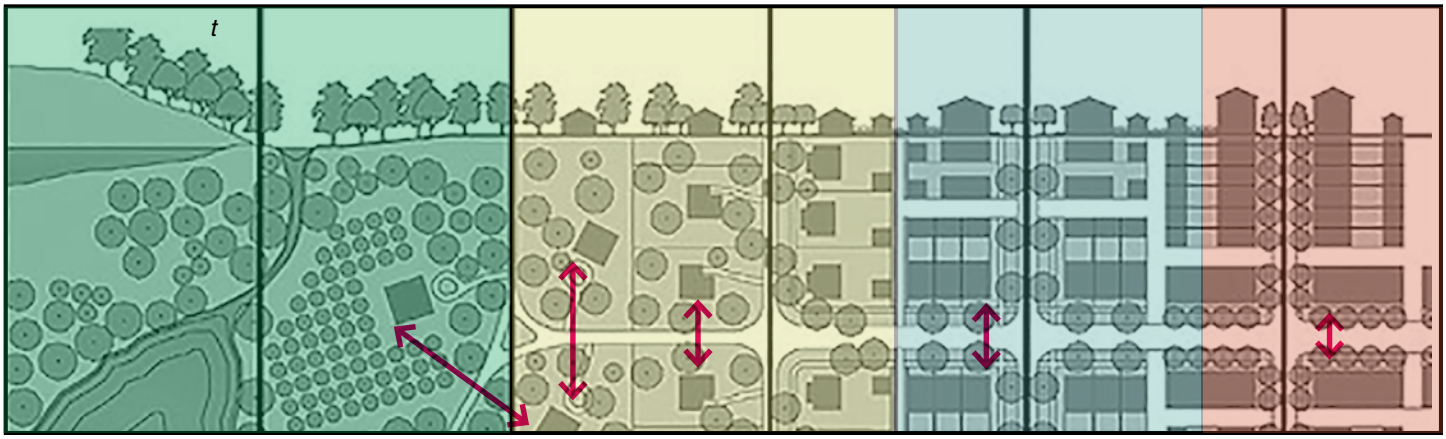
BUILDING SETBACKS

To foster a walkable, mixed use environment, buildings should be oriented toward and adjacent to the roadway to demonstrate the priority given to pedestrians. In residential-only areas, homes may be set further back from the roadway, but should be connected to the thoroughfare by comfortable pedestrian connections (e.g., sidewalks, safe intersections, etc). The graphic below shows how building setbacks might transition along the proposed Glasgow Avenue Districts. (Please note that the graphic is used for illustrative purposes only, with arrows demonstrating the change in relative setback in each District; it does not represent a proposed design plan for the corridor.)

Development pattern similar to the Southern Gateway District. Existing buildings are set far back from the road, and those setbacks should remain.

Development pattern similar to the Residential District, where building setbacks should be smaller than in then Gateway District, but may be larger than in the Institutional District.

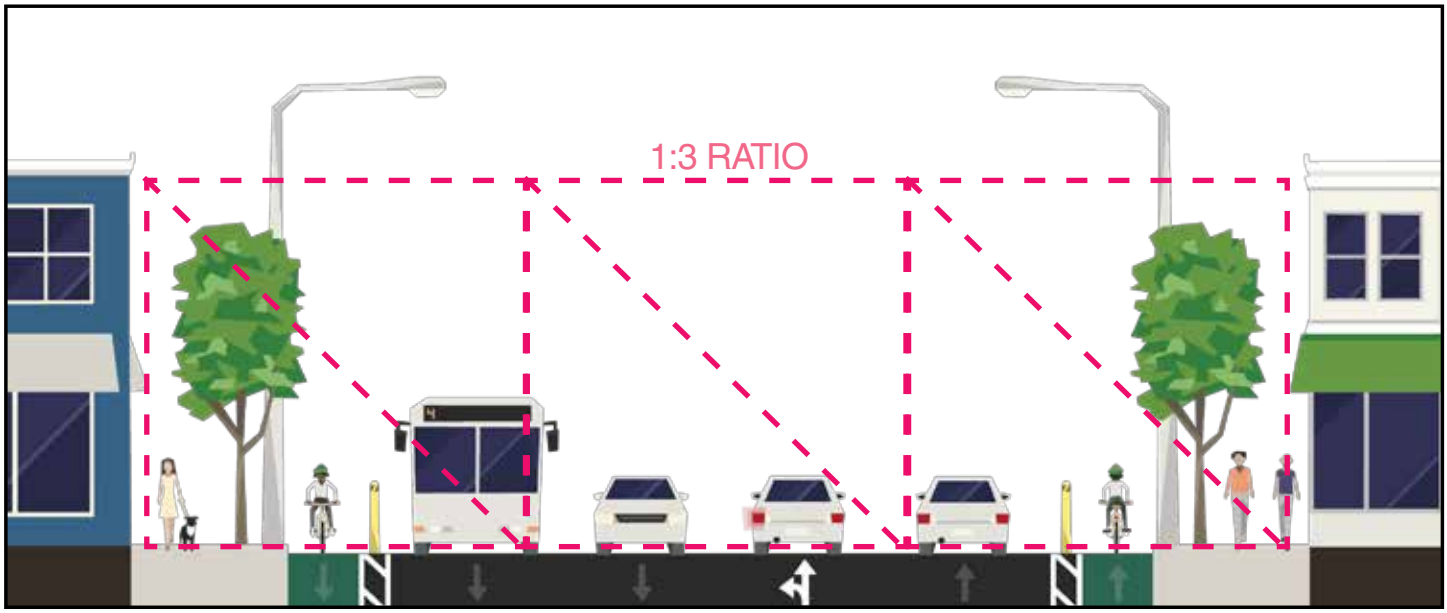
Development patterns similar to the Institutional (blue) and Village Center (orange) Districts, where buildings should be close to the sidewalk to foster a walkable environment.



Adapted from Institute of Transportation Engineers, "Designing Walkable Urban Thoroughfares: A Context Sensitive Approach"

BUILDING HEIGHTS

Buildings define urban space and create a sense of enclosure. In a Main Street context, height-to-width ratios between 1:3 and 1:2 create an enclosed environment in which cars slow down and people are more comfortable walking. Where there are no buildings, or where there are buildings of lower heights, street trees can foster a similar environmental character.



SITE & BUILDING DESIGN GUIDELINE MATRIX

SITE

CHARACTER DISTRICTS	LAND USE	SETBACKS / CURB TO BUILDING EDGE	ACCESS	PARKING
VILLAGE CENTER DISTRICT	Mixed-use (Commercial, retail, restaurants at ground floor; office, mixed-income residential above) Standalone commercial, retail, restaurants, office	20' setback (13' sidewalk & furnishings + 7' bike lane & buffer) on both sides	Consolidate curb-cuts with shared access Align new accesses to sites with existing access points on opposite side of road Inter-parcel connectivity with adjoining parcels as much possible Safe and convenient access for pedestrian and bikes Primary building entrances should be located along Glasgow Avenue	Limited on-street parallel parking to activate retail ground floor uses along east side of Glasgow Avenue between US40 and Abbey Road Most parking located at the rear or side of the buildings; if located at the side provide 10' landscape buffer along building edge to create a continuous build-to line perception
INSTITUTIONAL DISTRICT	School, medical office, emergency services, daycare			No on-street parking along Glasgow Avenue Parking located at the rear or side of the buildings; if located at the side provide 10' landscape buffer along building edge to create a continuous build-to line perception
RESIDENTIAL DISTRICT	Single family	Follow existing setback/build-to lines to promote a consistent frontage	One access point for sites with less than 300' of lot frontage; minimize curb-cuts, specifically for new developments/ redevelopments Safe and convenient access for pedestrian and bikes	No on-street parking along Glasgow Avenue
SOUTHERN GATEWAY DISTRICT	Research center, conservation area, green space, wooded lots			

BUILDING

HEIGHTS / MASSING	BUILDING FRONTAGE	BUILDING MATERIALITY	BUILDING FENESTRATION	FINISHED FLOOR ELEVATION
1 to 2 stories Building massing should include building plane offset and bulk plane to be applied to break-up massing For 1 story buildings, high parapet or faux 2nd story is recommended	Main entrances to buildings should be along Glasgow Avenue Provide access from rear and/ or side parking lots to front of buildings and main entrances Minimize block lengths to encourage walkability	High quality building materials recommended- stone, wood, brick, feature paneling, other masonry, and associated details are encouraged to be utilized specifically in retail/shops/ restaurants/related commercial spaces along ground floor level Adjoining buildings should be of complementary materials Use natural colors such as off-whites, creams, browns, greys as major wall colors; stronger accent colors/materials are acceptable for highlighting building elements such as entrances, feature materials, etc. Use high quality materials for signage, lighting, canopies, and related features on building walls	Minimum of 50% of first floor façade to have clear glass/ transparent material to activate shop/ storefronts; 30% for upper floors Utilize architectural/ green screens for any exposed floors such as in parking garages	For new developments or redeveloping areas, the finished floor elevation (i.e., to the top of the structural slab for a building), should be slightly above the adjacent roadway curb elevation and should slope slightly toward stormwater management areas To avoid the construction of buildings set low with respect to the road, developments may have to utilize infill Designs should also keep in mind that the resulting cross slope of the pathway/sidewalk should not exceed Americans with Disabilities Act (ADA) standards
1-2 stories consistent with existing buildings	Towards Glasgow Avenue for buildings with direct access from Glasgow Avenue	Consistent with existing building materials, preferably high quality materials	Consistent with existing buildings	

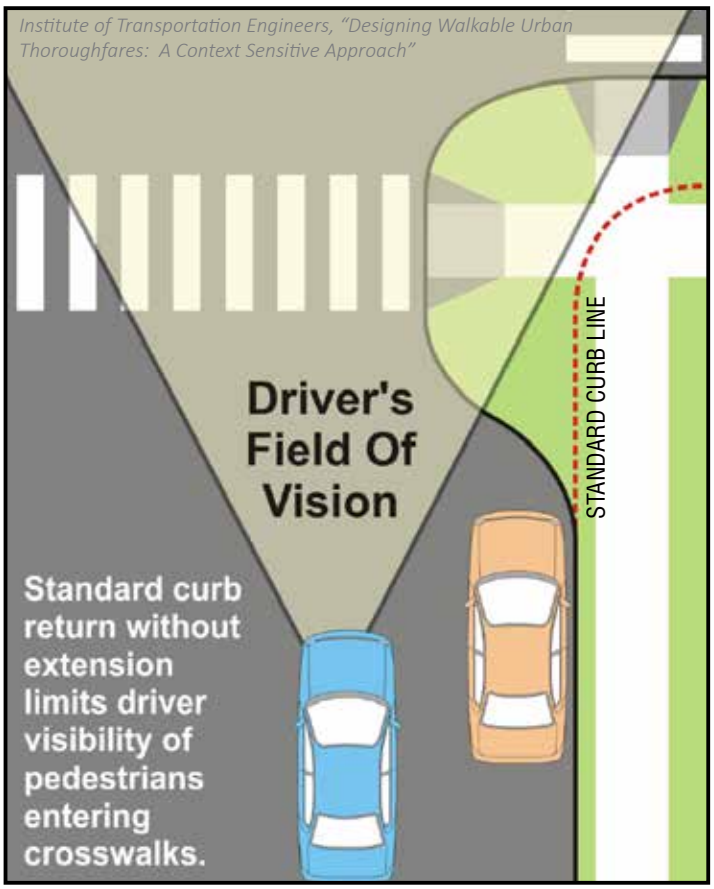
STREET DESIGN GUIDELINES

The graphics on this page and the next demonstrate a few general guidelines regarding streets and connectivity. A detailed matrix of guidelines follows.

DESIGN PRINCIPLES

CURB EXTENSIONS

Pedestrian visibility can be enhanced through the use of curb extensions, which can also provide a place to install stormwater management features or additional landscaping.



A curb extension can both shorten crossing distances and make people walking more visible to people who are driving

One example of a curb extension with plantings

LANE WIDTH

Part of the reason that vehicles speed on Glasgow Avenue is that the roadway is very wide. By slightly narrowing the travel lanes, it is possible to slow traffic while creating space for pedestrian and bicycle accommodations.

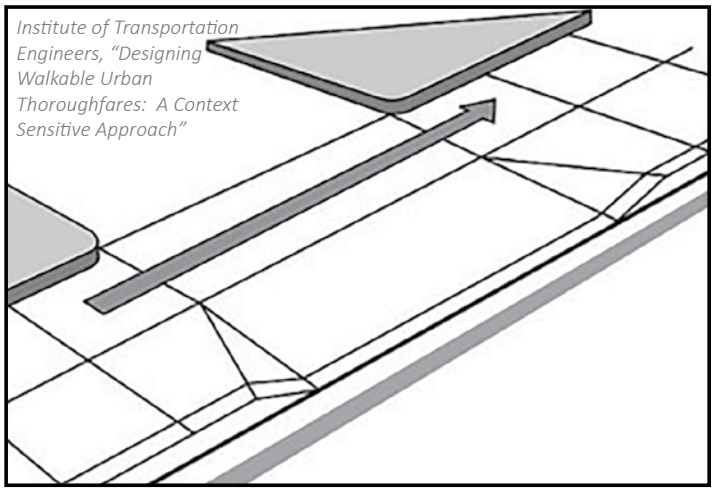
A planted median provides opportunities for traffic calming and road beautification

Paint is another way to visually narrow a lane

Separated bike lanes can also narrow a lane, both physically and visually

SIDEWALKS & CURB CUTS

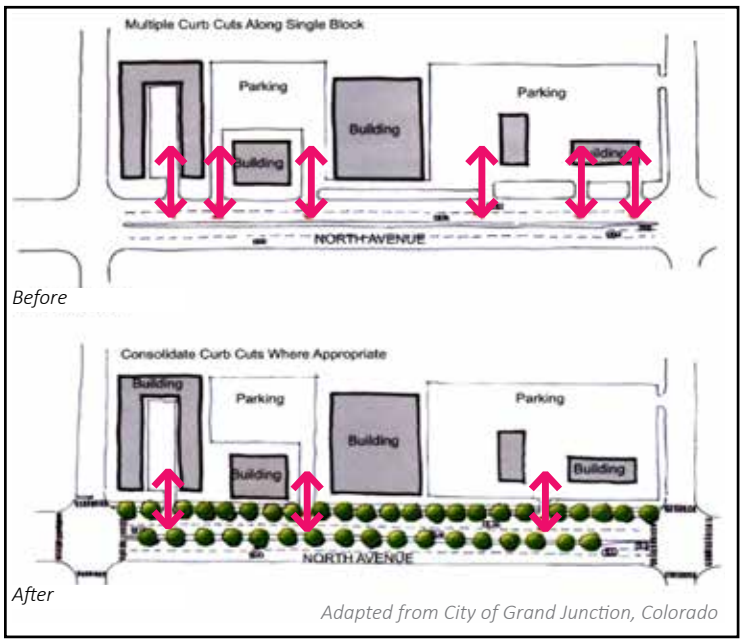
To provide adequate motivation for residents to walk for short trips from their homes to Glasgow Avenue, the sidewalk network must be continuous and complete. More space should be provided near commercial and office areas, and even crossings should be provided at all curb cuts. Consolidating curb cuts (i.e., vehicle access points) can increase pedestrian safety and clarify vehicle movements.



Where feasible, an even path should be provided across driveways and other curb cuts

This is an example of uneven crossings at driveways

An even crossing for people walking and riding bicycles - provided, in the case above, by utilizing a curb-side tree lawn to push the sidewalk back from the road - will provide a more pleasant experience for people walking, riding bicycles, and using mobility equipment, such as wheelchairs



Fewer curb cuts means fewer potential conflict points for people driving, walking, and riding bicycles

STREET DESIGN GUIDELINE MATRIX

CHARACTER DISTRICTS	RIGHT-OF-WAY	LANE WIDTHS	MEDIAN	PARKING	MULTIMODAL FACILITIES
VILLAGE CENTER DISTRICT	80’	11’ vehicle travel lanes 10’ median/ center turn lane	10' landscaped median with trees* (with selections of understory flowering) or ground level plantings wherever appropriate lengths available Trees should be spaced 45'-60' on center (o.c.) Left turn lanes should take the place of medians at intersections and access drives	8’ wide on-street parking along the east side of Glasgow Avenue	13’ sidewalk and furnishings + 7’ raised and separated bike lane & buffer on both sides Transit stops should include bus shelters, lighting, seating, and other amenities
INSTITUTIONAL DISTRICT				No on-street parking	
RESIDENTIAL DISTRICT	70’-74’	11’ vehicle travel lanes 10’ turn lanes	No median	No on-street parking	8’-10’ multi-use path on both sides Transit stops should include bus shelters, lighting, seating, and other amenities
SOUTHERN GATEWAY DISTRICT					

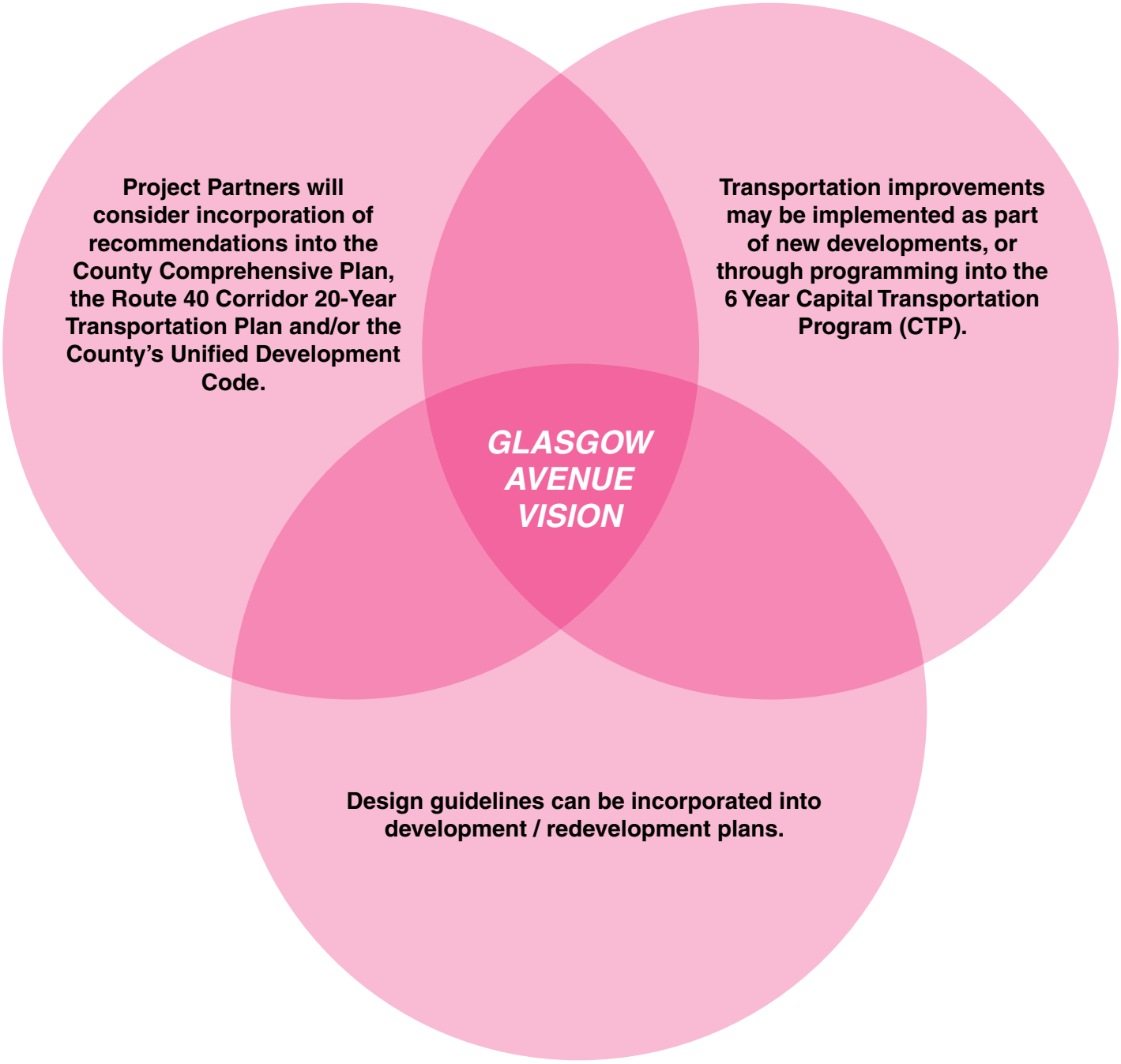
BUFFER AREA (TREE LAWN, LIGHTING)*	BUILDING AMENITY ZONE	IDENTITY ELEMENTS AND FURNITURE	INTERSECTIONS	ROUNDABOUTS
5’ tree lawn on both sides from edge of bike lane; canopy/ shade trees 45’-60’ o.c. (can be 40’ o.c.) Pedestrian scale lighting with 11’-14’ high post lamps with 40’-80’ on center spacing depending on scale of lighting Raingardens, bioswales, and similar green technology to be consistent with New Castle County’s requirements	These are areas in front of buildings, which are flexible for variety of outdoor uses such as outdoor dining, public art, wayfinding signage, and for public gathering areas Public art, wayfinding signage	Signage/wayfinding to destinations and amenities Street furniture such as trash receptacles, benches, public art is recommended at each block	Signalized for pedestrians, bikes, automobiles at specific locations as identified within the master plan Pedestrian crosswalks and area within the crosswalks should have materials/color with differentiation from drive lane asphalt (application of brick/pavers recommended)	Roundabouts should be designed to safely accommodate all non-motorized users, as well as all vehicles, including emergency vehicles and buses Plantings in the center of the median should be no higher than 2’ Delaware Department of Transportation Guidelines on Roundabouts provide further information
16' tree lawn on west side and 6’ on east side from back of curb; canopy/shade trees 45’-60’ o.c. Pedestrian scale lighting with 11’-14’ high post lamps with 100’ on center spacing	Landscape buffer with trees/planting	Signage/wayfinding to destinations and amenities Street furniture such as benches, public art is recommended		

** Note that selection of trees should take into account overhead utilities and the need to maintain clear sight lines. Location and type of tree should be further identified and developed in design.*

NEXT STEPS: IMPLEMENTATION

The recommendations of this study are tools to be used by the Glasgow Avenue community, and all of the Planning Partners. Each of the Partners (WILMAPCO, New Castle County, and DelDOT) should incorporate these Glasgow Avenue Main Street Study recommendations into other documents. For example, New Castle County should incorporate the recommendations into the County Comprehensive Plan. Recommendations should also be strongly considered for incorporation in other planning ordinances or documents, such as the Route 40 Corridor 20-Year Transportation Plan and/or the County's Unified Development Code.

Implementation of transportation improvements will either be completed as part of both current and future proposed developments, or by DelDOT as projects are programmed into the 6 Year Capital Transportation Program (CTP). Design guidelines may be incorporated into development / redevelopment plans, and the corridor will gradually take on the character described in this plan.



IMPLEMENTATION ACTIONS

ACTIONS	IMPLEMENTING PARTIES	TIME FRAME		
		NOW/ ONGOING	1-5 YEARS	6-10 YEARS
Action 1: Incorporate the character areas, transportation improvements, design guidelines, and other recommendations from this study into the County's Comprehensive Plan. Approve changes to the Unified Development Code, as necessary, when they conform to the recommendations in this study.	New Castle County (NCC)	X		
Action 2: Incorporate the character areas, transportation improvements, design guidelines, and other recommendations into MPO planning documents.	WILMAPCO	X		
Action 3: Incorporate the character areas, transportation improvements, design guidelines, and other recommendations into relevant state planning documents.	DelDOT, Office of State Planning Coordination (OSPC), DART	X		
Action 4: In coordination with routine planning processes, study the need for enhanced services and/ or facilities along the Glasgow Avenue corridor and on existing and future connecting streets.	DART	X	X	
Action 5: Ensure that development plans along the Glasgow Avenue corridor adhere to the site/building and street design recommendations, principles, and guidelines described in this study. For example, ensure that redevelopment of parcels includes implementation of the bicycle/pedestrian facilities described in this study, and that building placement and design adhere to guidelines.	NCC, DelDOT, land owners/developers	X		
Action 6: Ensure that street paving and rehab projects adhere to street design recommendations, principles, and guidelines described in this study.	DelDOT	X		
Action 7: Plan and budget for implementation of the roundabouts proposed for Paxson Drive and Old County Road.	WILMAPCO, DelDOT	X	X	
Action 8: Monitor the progress of the Glasgow Avenue Main Street Study, as well as local demographic/land use changes, and make updates as necessary. Keep the community informed about projects that implement recommendations of this study through the Route 40 Corridor and Monitoring Committee.	WILMAPCO, NCC, DelDOT, DART		X	X

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- Page 10, "Goals & Objectives": NACTO, Ben Tran via Philadelphia Mayor's Office of Transportation & Utilities, Safe Routes to Schools California, Matt Carroll via indyculturaltrail.org, Cambridge Redevelopment Authority
- Page 12-13, "History of Glasgow Avenue": Aerial imagery was obtained from the Delaware Environmental Monitoring and Analysis Center (DEMAC) website
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7 APPENDICES

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