

PLAINVILLE ROAD CORRIDOR SPECIAL PUBLIC INTEREST STRATEGIES PLAN

Columbia Township, Ohio

December 2005

Township Trustees

Susan Hughes, President Jane Pirman, Vice President Stephen Langenkamp, Trustee

Township Officials

George Leet, Fiscal Officer C. Michael Lemon, Administrator

Consultant Agency

Hamilton County Regional Planning Commission

Executive Director: Ron P. Miller, FAICP

Project Managers:

Caroline Statkus, AICP Planning Services Administrator

Todd M. Kinskey, AICP, Senior Planner/Supervisor

Bryan D. Snyder, AICP, Senior Planner

Other Assistance:

C. Russell Sparks, Zoning Services Administrator

Karen Ambrosius, Administrative Coordinator

Kathryn Rademacher, University of Cincinnati Co-op Student

Teresa Lawson, Development Review Specialist

TABLE OF CONTENTS

| <u>Se</u> | Section: Pa | | | | |
|-----------|---|---|--|--|--|
| Int | Introduction | | | | |
| 1. | . Study Area | | | | |
| 2. | Existing Conditions2.1. Description2.2. Topography2.3. Zoning2.4. Land Use2.5. Traffic2.6. Development Constraints2.7. Public Investment in Improvements2.8. Distinctive Characteristics | 2 4 4 7 10 11 13 13 | | | |
| 3. | Criteria Compliance | 14 | | | |
| 4. | Public Interest Issues | 16 | | | |
| 5. | Goals | 17 | | | |
| 6. | Plainville Road Corridor Policies6.1. Reduce Building Setbacks6.2. Reduce Minimum Lot Area and Lot Width6.3. Increase Land Use Mix6.4. Increase Maximum Building Height6.5. Increase Maximum Residential Density6.6. Regulate Building Materials6.7. Regulate Building Roof Styles6.8. Require Ground Floor Transparency6.9. Reduce Signage Size, Area, and Setback Requirements6.10. Modify Streetscape Requirement6.11. Modify Boundary Buffer Requirements6.12. Reduce Off Street Parking Requirement6.13. Improve Vehicular Connections | 18 18 18 19 19 19 20 20 20 21 21 22 22 | | | |
| 7. | Further Recommendations7.1. Thoroughfare Plan Amendments7.2. Unifying Elements7.3. Utility Plans7.4. Vehicular Circulation7.5. Intersection Improvement | 23 23 24 24 24 24 | | | |
| Ар | Appendices Appendix A: Open House Comments Appendix B: Examples of Standards Appendix C: Roundabout Intersection Information | | | | |

LIST OF MAPS

| Map Title: | Page: |
|-------------------------------|-------|
| Map No. 1 – Study Area | 3 |
| Map No. 2 – Topography | 5 |
| Map No. 3 – Zoning | 6 |
| Map No. 4 – Existing Land Use | 8 |
| Map No. 5 – Parcel Area | 9 |
| Map No. 6 – Setback Standards | 12 |
| Map No. 7 – Land Use Plan | 15 |

LIST OF TABLES

| Table: | Page: |
|---------------------------|-------|
| Table A – Parcel Analysis | 10 |

INTRODUCTION

In July 2005, the Columbia Township Trustees contracted with the Hamilton County Regional Planning Commission to complete a planning study and to produce a Special Public Interest (SPI) Strategy document for the creation of a Special Public Interest District for the commercial portion of Plainville Road located in Columbia Township. An SPI district is a zoning tool contained in the Hamilton County Zoning Resolution that can be used to refine existing zoning regulations and to give local jurisdictions the ability to create standards that address issues or desires for the future of specific areas of the community. The SPI district will eventually become a part of the Hamilton County Zoning Resolution, including a new zoning designation on the official Zoning Map and a new section of text included in the Zoning Resolution.

Reasons for creation of an SPI district include the facilitation and implementation of several goals of the Columbia Township Comprehensive Plan, including revitalization of older commercial areas of the township and creating a cohesive image for the township. The implementation strategies of the Comprehensive Plan recommend creation of SPI districts in certain sections of the township, including the Plainville Road Corridor, which would improve the quality of development and redevelopment. Architectural standards, buffers to commercial and residential uses, improved streetscape appearance, and traffic congestion mitigation were among the potential standards recommended in the Comprehensive Plan. Therefore, implementing a portion of the Comprehensive Plan and improving the appearance of the Plainville Road Corridor are the main objectives of the SPI Strategy Plan.

Justification for this Plainville Road Corridor SPI Study becomes clear after comparing the existing style of development within the corridor with requirements of various land use and zoning regulations that currently govern the corridor. There is very little opportunity for any development or redevelopment in the corridor that would meet today's regulations. Lack of consistency between existing development and existing regulations limits the potential for significant improvement in vacant and underutilized properties in the corridor.

Unfortunately, the corridor has seen a decline in the last several years, with a loss of business and removal of fairly large street trees that has had a significantly negative impact on the appearance of the corridor. Columbia Township officials have been working towards replacing the street trees and providing other public amenities in the corridor. However, lack of development alternatives and architectural standards to ensure quality development have been identified as major issues to be addressed in the corridor. Therefore, the biggest challenge to the success of this plan has been to balance the need to relax existing development regulations to encourage redevelopment while creating specific requirements to create an aesthetically pleasing and safe development pattern.

Several public meetings have been held as part of the creation of this SPI Study. An initial meeting with business and property owners within the Plainville Road Corridor was held on October 27, 2005 to review existing conditions and development constraints in the corridor and to begin discussing possible alternatives regulations. Following this meeting, a set of draft regulations were created and distributed to township officials. An Open House meeting was scheduled and invitations were sent to each of the 33 property owners in the corridor. The Open House was held on November 17, 2005 at the Columbia Township Administration Building. A total of eight individuals attended. The comments received from those in attendance were generally positive and a final draft of the plan was prepared for consideration by the Columbia Township Trustees and ultimate adoption by the Hamilton County Regional Planning Commission.

1. STUDY AREA

The SPI Study Area includes the properties within the Plainville Road Corridor area of Columbia Township that are currently zoned for commercial use. This includes all properties within Columbia Township that have frontage on Plainville Road between Murray Avenue to the south and Bramble Avenue to the north (corporation line) that are currently zoned "E" Retail. The study area also includes several properties fronting on Grace Avenue, Cambridge Avenue, and Murray Avenue that are currently zoned "E" Retail (see Map No.1, Study Area Map).

2. EXISTING CONDITIONS

2.1 Description

The Columbia Township portion of Plainville Road south of Bramble Avenue is a three lane roadway that includes retail, office, and residential uses. The corridor includes a variety of commercial building styles, including older small retail buildings fronting directly on the sidewalk, with offices and residential units on the upper floors, and a newer suburban-style big-box development with a large parking area in front. The corridor is between 900 and 1,100 feet in length and includes small blocks with a total of 4 intersecting side streets (Bramble, Grace, Cambridge, and Murray Avenues). Sidewalks are provided on both sides of Plainville Road along the entire length of the corridor. The majority of businesses along Plainville Road have vehicular access to these side streets. However, there are still a large number of curb-cuts directly onto Plainville Road. This section of Plainville Road provides a connection between Fairfax and Mariemont to the south and Madisonville, Madeira, and Indian Hill to the north.

The Plainville Road Corridor is a mixed use area with many types of commercial and residential activity. Commercial activity in the corridor includes a mix of businesses that mostly cater to customers outside of the corridor. There are few walk-in businesses. The existing businesses include a hardware store, discount store, bar, restaurant, gas station, several auto sales and repair businesses, and a number of other small retail stores. Also included in the corridor are a number of single-family homes, mostly located on the side streets in the corridor, behind the retail properties on Plainville Road. There are also several residential units located above retail buildings in the corridor.

The south end of the corridor is located on the northern boundary of the Village of Mariemont, which runs along Murray Avenue. Murray Avenue once had an interurban rail line which ran down the middle of the road from the late 1800s through the early 1900s. This rail line has been long abandoned and the tracks have been removed, leaving a large tract of greenspace down the middle of Murray Avenue. The resulting greenspace splits Murray Avenue into two separate sections that run parallel to each other along the southern boundary of the corridor. Each section of Murray Avenue, on either side of the greenspace tract, is open to two way traffic. This creates a six way intersection where Murray Avenue meets Plainville Road. This intersection creates a unique, if not confusing, entrance to the corridor from the south and the 6-way stop of Plainville Road and Murray Avenue is easily identifiable to residents and commuters who travel the corridor.



2.2 Topography

The topography of the corridor is fairly flat. There are no steep slopes, creeks, or ravines within the corridor. The corridor is not located within the 100-year floodplain (see Map No. 2, Topography Map).

2.3 Zoning

The Hamilton County Zoning Resolution was initially enacted in Columbia Township on November 16, 1949. The entire corridor is zoned "E" Retail Business (see Map No. 3, Zoning Map). This zoning district reflects the small retail uses along Plainville Road that have existed in the corridor since well before the adoption of zoning in 1949. The corridor is bordered to the east and west by residential properties in Columbia Township that are zoned "C" Single Family Residence. To the north, the corridor is bordered by properties in the City of Cincinnati that are zoned for office, commercial and single-family residential uses. The office and commercial uses are limited to the few properties that are located at the intersection of Plainville Road and Bramble Avenue. To the south, the corridor is bordered by properties in the Village of Mariemont that are zoned for residential and park uses. The property zone for parks includes several tennis courts and a small open space area. The commercial corridor in this area is therefore confined to the portion of Plainville Road in Columbia Township and extends a small distance to the north into the City of Cincinnati.

Since the initial adoption of the "E" Retail district boundary in the corridor, there have been three zone amendments. All three occurred between 1951 and 1958 and all three added property that was originally zoned "C" Single Family Residence to the "E" Retail district. These areas included five lots on Murray Avenue east of Plainville Road, two lots on Murray Avenue west of Plainville Road, and a large tract of land currently occupied by the vacant IGA/Walgreen's building. Other zoning activity in the corridor has been limited to tenant changes and signage changes. This indicates that business activity in the corridor has been limited to the turnover of tenants in existing buildings. In terms of zoning, the boundaries of the corridor have remained unchanged since 1958.

In October 1996, the Hamilton County Zoning Resolution was revised and new standards adopted. Among those most beneficial to the visual appearance of commercial and industrial areas are standards for streetscape landscaping, interior parking lot landscaping, and signage control. However, the Zoning Resolution is geared mostly towards the suburban style of development that occurs in the majority of townships in Hamilton County. The Zoning Resolution does not contain regulations related to older pedestrian-oriented commercial corridors. Current zoning requirements in the "E" Retail district include a 30-foot minimum front yard setback, 20,000 square-foot minimum lot size, 10-foot landscape buffer along all public streets, maximum intensity (impervious surface ratio) of 60% lot coverage, 10 to 60-foot wide landscape buffer along all property lines that abut a single-family lot, and an off-street parking standard that requires 1 parking space for every 200 square feet of retail floor area. As a result, the majority of properties in the corridor do not meet the zoning requirements of the "E" Retail district.

The Zoning Resolution does contain a set of Planned Unit Development (PUD) standards that allow for flexibility in meeting the minimum zoning requirements provided the use is permitted in the district and an innovative design is used for the development. In the "E" Retail district, a PUD is required to develop any property with an impervious surface ratio





(ISR) greater than 0.60 (meaning more than 60% of the site is covered by impervious surfaces, including parking lot pavement, buildings, and concrete). This ratio is calculated after subtracting any portion of the property that is in the right-of-way of any public street. The majority of properties in the corridor currently have an ISR of greater than 60%. This means that for any redevelopment to occur, regardless of how small the improvement (including complete sign replacement, any addition to a building, parking lot expansion, etc.), the owner of the property must have a PUD approved. All PUDs are required to be reviewed at a public hearing and approved by the Hamilton County Rural Zoning Commission. However, the same standards for development in the "E" Retail district are used as a base for the PUD review and any deviation from these standards requires approval of a variance to the Zoning Resolution. As a result, the PUD process, while providing some flexibility for redevelopment in the Plainville Road Corridor, cannot address all the concerns in the corridor unless the standards of the underlying "E" Retail district are changed.

The Zoning Resolution does contain a tool to change the zoning requirements for a specific area without changing the zoning requirements for the entire county. The Special Public Interest (SPI) district offers the opportunity to strengthen or relax any provision of the Zoning Resolution. This Plainville Road Corridor SPI Strategies Plan is the first step in the creation of an SPI zoning district. The SPI district is a tool that can be used to create an alternate set of regulations for the Plainville Road Corridor and could address the inability of the current Zoning Resolution to allow reasonable development alternatives for an older urban-style area.

2.4 Land Use

The Plainville Road Corridor is in an area of Columbia Township that can generally be called a commercial corridor, although there is a small mix of other uses as well. The Hamilton County Auditor's office has an existing land use classification for each parcel in the corridor (see Map No. 4, Existing Land Use Map). Of the 9.82 acres included in the corridor, approximately 66% of the acreage is classified as commercial. A total of nine percent of the land area is classified as vacant. The average parcel size within the Study Area is approximately 0.117 acres. The area includes 84 parcels of land, with the largest category of land use being the commercial classification (43 of the 84 parcels; or 51%). The next largest category is the single-family classification (12 of 84 parcels, or 14%). There are only 6 parcels classified as office and only seven parcels classified as mixed use or multi-family. Together, these two uses make up eight percent of the land area. Table A provides the parcel size data for the entire corridor. The Study Area as a whole contains many small parcels of land that are mostly used as commercial property. The lack of vacant parcels of land in corridor, which limits the potential for new development and requires redevelopment of existing properties, was one reason for undertaking this studv.

As stated above, the average parcel size in the corridor is very small. The vast majority of parcels are less than 10,000 square feet in area, which is half the 20,000 square-foot minimum lot size required by the Zoning Resolution for parcels in the "E" Retail district (see Map No. 5, Parcel Area). However, there are a number of adjacent parcels with common ownership. These commonly owned parcels offer opportunities for consolidation of properties, which could help bring some properties into compliance with the minimum lot size requirements, provide additional space for parking, and allow for the consolidation of parking areas and access points. All of these opportunities, if nothing else, would improve





connectivity within the corridor and encourage reuse of existing structures. These commonly owned properties could also provide larger sites for redevelopment. Therefore, the apparent small parcel size shown in Table A, which appears to limit the potential for large-scale redevelopment, does not reflect the real opportunity for consolidation of properties under common ownership for reuse and redevelopment.

| EXISTING LAND USE | ACRES | NUMBER OF PARCELS | % of TOTAL LAND AREA | % of TOTAL PARCELS |
|----------------------|-------|----------------------|-------------------------|-----------------------|
| Commercial | 6.479 | 43 | 65.94% | 51.19% |
| Mixed Use | 0.525 | 5 | 5.35% | 5.95% |
| Multi-family | 0.167 | 2 | 1.69% | 2.38% |
| Office | 0.392 | 6 | 3.99% | 7.14% |
| Public/Semi Public | 0.482 | 3 | 4.90% | 3.57% |
| Single Family | 0.626 | 12 | 6.37% | 14.29% |
| Two Family | 0.270 | 3 | 2.75% | 3.57% |
| Vacant | 0.885 | 10 | 9.00% | 11.90% |
| | | | Average F | arcel Size |
| Grand Total | 9.826 | 84 | 0.117 | acres |

Table A: Parcel Size Analysis

2.5 Traffic

Traffic does not appear to be a major issue in the Plainville Road Corridor. Traffic in Columbia Township is concentrated mostly around the intersection of Ridge and Highland Avenues, which saw an Average Daily Traffic (ADT) of 48,000 cars in 2005.¹ Plainville Road has approximately one third of this volume (16,200 cars in 2000).² As stated earlier, the Plainville Road Corridor provides a north/south connection between Madison Road and Wooster Pike. This connection provides access for commuters from communities east of the corridor to the Red Bank Road/I-71 ramp. Secondarily, the corridor also provides connection for residents of the Village of Madeira and parts of the Village of Indian Hill to Mariemont Square. Due in part to the relatively low traffic volume on Plainville Road, the corridor has typically not attracted commercial businesses that rely on drive-by traffic. The businesses located in the corridor reflect this fact in that they are mostly destination-type businesses.

In addition, accidents do not appear to be a major concern in the Plainville Road Corridor. No intersection in the corridor is listed in any of the Hamilton County Engineer's Accident Analysis Report between 1994 and 2004.³ This lack of traffic accidents is likely a result of the limited amount of daily traffic in the corridor and the ordered grid of side streets with few difficult intersections. The Accident Analysis Reports do not include the six-way intersection of Plainville Road, Madisonville Road, and Murray Avenue because most of this intersection is located in the Village of Mariemont. This six-way stop sign controlled intersection is easily identifiable to anyone that travels the corridor regularly. Of the

¹Ridge & Highland traffic count data from the Hamilton County Engineer website at: http://www.hamilton-co.org/Engineer/traffic.asp

² Plainville Road traffic count data from the OKI website at: http://www.oki.org/pdf/hamiltontrafficcount.pdf

³ Accident Analysis Reports can be found on the Hamilton County Engineer website at: http://www.hamilton-co.org/Engineer/traffic.asp

intersections in the corridor, the intersection with Murray Avenue/Madisonville Road is generally the most confusing and potentially dangerous.

The Hamilton County Engineer maintains a classification system for each roadway in the unincorporated areas of Hamilton County. Plainville Road is classified as a county road and is maintained by the County Engineer. Other classifications include township roads (maintained by the Township Trustees) and state roads and federal highways (maintained by the Ohio Department of Transportation). In addition to this classification system, the County Engineer also implements the county's Thoroughfare Plan. This plan, most recently adopted by the Regional Planning Commission and the Board of County Commissioners in 1994, divides all county roads into several categories. Each category includes a recommended width of public right-of-way needed to make necessary improvements in the future to maintain a high level of service.

Plainville Road is designated as a "Minor Arterial" which requires a future right-of-way of 100 feet in width. The existing right-of-way for Plainville Road is approximately 60 feet in Right-of-way dedication is only required (other than during specific roadway width. improvement projects) as part of a zone change or PUD approval process. As stated previously, the majority of properties in the Plainville Road Corridor would be required to seek PUD approval for any alteration because of the high ISR of properties in the corridor. Right-of-way dedication as part of a zone change or PUD process is measured in halves which are measured from the centerline. Therefore, each property with frontage on Plainville Road currently has approximately 30 feet of right of way from the centerline of Plainville Road (right-of-way line is approximately the back of the sidewalks along Plainville) and would be required to dedicate an additional 20 feet to create a right-of-way with a width of 50 feet from the centerline. Typically, no buildings, parking, signage, or any other obstruction that could pose a hazard to motorists are permitted within the public right-of-way. Requiring the full 100-foot width of right-of-way along Plainville Road would negatively impact the buildability of lots in the corridor and could significantly discourage redevelopment.

2.6 Development Constraints

As stated in the Zoning and Traffic sections, there are several elements of typical redevelopment practices which are not consistent with older small scale retail corridors. Building locations fronting on the sidewalk, small parcels, residential and office uses above first floor retail, to name a few, are not permitted by the current zoning regulations. In addition, right-of-way dedication in accordance with the Thoroughfare Plan would have a significant impact on properties in the corridor. If the right-of-way dedication, 30-foot front yard setback, and streetscape buffering (effectively the parking setback) requirements are applied along Plainville Road, the immediate impact of these requirements can be seen (see Map No. 6; Setback Standards).

These requirements would have the most significant impact on existing buildings within the corridor that front on Plainville Road. Of the 21 buildings in the corridor that front on Plainville Road, 16 would not meet the minimum setback requirements of the Zoning Resolution, of which 13 would be located within the future right-of-way. Not one of the parking lots along Plainville Road would meet the requirements of the Zoning Resolution without significant modifications. The reduction in the buildable area of the majority of properties in the corridor would, at the least, discourage redevelopment or significant improvement and may make some lots altogether unbuildable.



2.7 Public Investment in Improvements

The Columbia Township Trustees have made a significant investment in improving the Plainville Road Corridor. Several planning studies have recently been completed for Columbia Township. Of these studies, the Columbia Township Comprehensive Plan is the most significant. The scope of the plan includes all of Columbia Township and is meant to serve as a guide for the next 20 years. This plan was completed by Meisner + Associates, a planning/consulting firm, in March 2005, approved by the Columbia Township Trustees in May 2005, and adopted by the Hamilton County Regional Planning Commission in June 2005. The plan includes goals and recommendations for every section of Columbia Township, including the Plainville Road Corridor. Through the planning efforts recently completed, and the undertaking of this SPI Strategy Plan, the Township Trustees have shown a dedication to investing in improvements to the Plainville Road Corridor.

In addition, the township has applied for \$300,000 in Community Development Block Grants (CDBG) to fund streetscape and façade improvements in the Plainville Road Corridor. These improvements would include replacing the street trees along Plainville Road that were removed in 2001, purchasing ornamental benches and trash cans for the corridor, and creating a façade improvement program for buildings in the corridor. The county has recommended CDBG funding of \$100,000 for 2006. The proposed programs would greatly improve the image of the corridor and provide an incentive for property owners to improve their properties.

2.8 Distinctive Characteristics

The Plainville Road Corridor is unique in Columbia Township in that it contains the township's only traditional neighborhood business district. Other commercial areas in Columbia Township include the Ridge and Highland and the Wooster Pike commercial districts. Ridge and Highland contains a high concentration of suburban style big box developments and extremely high traffic volumes. The Wooster Pike corridor is undergoing significant redevelopment and is different from the Plainville Road Corridor in that Wooster Pike is a larger road and the properties have a much greater depth, which allows this district to redevelop in accordance with the current zoning requirements. Therefore, the majority of the development constraints identified above for the Plainville Road Corridor do not apply to other portions of Columbia Township.

The style of development in the Plainville Corridor, where buildings are located close to the street, many businesses have entrances directly from the sidewalk, parking areas are located to the rear or side of buildings, and mixed use buildings contain residential and commercial uses, is a style of development that has recently seen a resurgence in desirability. Many communities today are attempting to create this style of development. The Plainville Road Corridor has this distinctive characteristic, which differentiates it from many other commercial areas. In addition, there are redevelopment opportunities, the largest of which is the vacant IGA/Walgreen's building in the northwest corner of the corridor. This SPI Strategy document attempts to allow for the preservation of this distinctive character while providing additional opportunities for development and redevelopment in the corridor.

3. CRITERIA COMPLIANCE

The Plainville Road Corridor contains or is planned to contain all the characteristics required for designation as a Special Public Interest – Suburban Corridor District, as identified below.

Criteria (a): A concentration of retail and service oriented commercial establishments serving as a principal business activity center for a sociogeographic neighborhood, community, or region.

The Plainville Road Corridor contains a concentration of commercial establishments serving portions of Columbia Township, the City of Cincinnati neighborhood of Madisonville, and the Villages of Fairfax, Mariemont, Madeira, and Indian Hill. Commercial activity in the corridor is highly concentrated, as evidenced by the small size of the properties in the corridor and the relatively high number of commercial establishments within the small area.

Criteria (b): An area that has received or been approved for substantial public investment. The Columbia Township Trustees made a substantial investment in the creation of the Columbia Township Comprehensive Plan in 2004 and 2005. The implementation of the Comprehensive Plan would be improved by the creation of a Special Public Interest Strategy for the Plainville Road Corridor. The Township Trustees have invested in the creation of this SPI Strategy Plan. In addition, the township has applied for CDBG funding for streetscape and façade improvement projects in the corridor.

Criteria (c): An area that is planned for unusual intensity or density of development.

The corridor currently contains a high concentration of commercial development. The Columbia Township Comprehensive Plan identifies this area for improvements and potential expansion of the commercial district. The future land use recommendation of the plan is to maintain the existing commercial designation of the corridor, expand the commercial district to the east and the west to provide a greater opportunity to increase the size of redevelopment sites, and create an SPI district to allow development alternatives that are consistent with the plan (see Map No. 7; Land Use Plan). The intensity of this area is already unusually high. The majority of properties in the corridor are located on small properties that are completely covered by the building and parking area pavement. The current style of development in the Plainville Road Corridor is unique partly because of the unusually high density of commercial establishments in the area.



4. PUBLIC INTEREST ISSUES

The Columbia Township Comprehensive Plan includes a vision and set of goals for the Plainville Road Corridor and implementation recommendations for the improvement of the area. Issues identified for the Plainville Road Corridor (referred to as Madison Place South in the plan) include the need to improve the appearance of properties in the corridor, a need for economic development, redevelopment of the vacant IGA/Walgreen's property, and the need for the creation of a "sense of place." One of the tools identified in the Comprehensive Plan for the implementation of goals for this corridor was the creation of a Special Public Interest district to create zoning regulations that support the implementation of this SPI Strategies plan, in part, to refine the goals and improve the implementation of the Comprehensive Plan.

Improvement of the appearance and functionality of the Plainville Road Corridor will improve the community image of this portion of Columbia Township. The lack of potential for redevelopment in the corridor, due partly to zoning regulations that discourage traditional neighborhood retail development, could continue without the institution of new development guidelines aimed at addressing this issue. Additionally, the lack of architectural character and expectations for high quality development may also limit the potential for redevelopment or significant investment in the corridor. This SPI Strategy is aimed at providing an alternative set of zoning regulations that take into account the existing character of the corridor, making it easier to develop and redevelop properties, while also providing certain architectural standards to improve aesthetics and encourage revitalization of this neighborhood business district.

5. GOALS

The goals of this SPI Strategies Plan are oriented towards facilitating the implementation of the Columbia Township Comprehensive Plan. The overall goals and recommendations of the Comprehensive Plan include expanding the tax base, revitalizing existing neighborhood business districts, and developing commercial design standards to create a theme and common image for Columbia Township. The specific goal for the Neighborhood Business Districts section of the plan is to: "Promote commercial redevelopment in neighborhood business districts and commercial areas." Some of the related objectives include:

- Encourage the upgrading and conversion of vacant and underutilized buildings and upper floors into residential and other appropriate uses
- Provide parking areas behind buildings to meet needs of neighborhood businesses.
- Develop and implement "Design Guidelines" or SPI districts
- Continue to develop an image and vision for the neighborhood business districts and encourage private and public investments to attain a multifunctional community

Through the Special Public Interest district, the appearance and functionality of the Plainville Road Corridor would be improved. Columbia Township would benefit by encouraging development and redevelopment, creating new architectural design requirements, allowing mixed use developments, improving access management and development coordination, and improving the streetscape landscaping within the corridor. Through the implementation of these goals, and the corresponding policies, a more attractive and viable neighborhood business district can be created that the township and area residents will be proud of for years to come.

The specific development policies, and the rationale linking them to the goals of this section, are listed in Section 6. The purpose of these policies is that they be included in the Hamilton County Zoning Resolution. Further recommendations related to the goals of the SPI Plan, which are intended as advisory recommendations rather than included as zoning text, are located in Section 7. Appendix B contains a table that illustrates policies and further recommendations of Sections 6 and 7 with examples of the current condition or standard and the proposed change.

6. PLAINVILLE ROAD CORRIDOR POLICIES

6.1 Reduce Building Setbacks

To allow pedestrian friendly development and encourage continuation of existing development patterns, the current front yard building setback of 30 feet and side yard building setback of 10 feet should be reduced such that there is no building setback required in the front and side yards.

Rationale: The current Zoning Resolution requirements for the "E" Retail district are better suited for suburban development areas, where there are typically larger lots and more room to situate buildings back from the road. However, in the Plainville Road Corridor, buildings are typically located either at the street line or very close to the street, with the one exception being the vacant IGA/Walgreen's building. In addition, the properties in the corridor are not typically large enough to meet the front and side yard setback requirements. Therefore, most existing buildings do not comply with existing zoning requirements. The rear yard setback requirement of 20 feet would remain, which would preserve the existing protection for residential property owners living behind commercial properties within the corridor. Removing the front and side yard setback requirements would encourage the upgrade or conversion of existing underutilized buildings and allow more alternatives for new development in the corridor.

6.2 Reduce Minimum Lot Area and Lot Width

To allow greater opportunities for development and redevelopment in the corridor and to reflect the existing property size in the area, the minimum lot size of properties in the corridor should be reduced from 20,000 square feet to 2,500 square feet and the minimum lot width should be reduced from 100 feet to 30 feet.

Rationale: The 20,000 square-foot minimum lot size and 100-foot minimum lot width requirements of the "E" Retail district contained in the current Zoning Resolution are better suited to suburban development areas. Currently, only two lots in the corridor are greater than 20,000 square feet and these are the two lots occupied by the vacant IGA/Walgreen's development. The vast majority of lots in the corridor range from 2,500 square feet to 10,000 square feet in lot area. In addition, most lots in the corridor are approximately 30 feet in width. Again, this new policy to reduce lot size and width requirements would encourage the upgrade or conversion of existing properties and allow expanded development alternatives in the corridor.

6.3 Increase Land Use Mix

To encourage a mixed use environment that is enhanced by residents who may live and work within the corridor, residential uses should be permitted on the second and third story of buildings where a commercial use (i.e., office or retail) is located on the first floor.

Rationale: The current requirements of the Zoning Resolution state that all residential uses in the "E" Retail district must be reviewed and approved by the Rural Zoning Commission as part of a Planned Unit Development (PUD). Residential uses are not permitted as-of-right. This requirement is meant to provide a separation of uses and prevent the loss of commercial districts in the county to residential development.

However, by allowing residential uses that are accessory to commercial uses in the Plainville Road Corridor, mixed use developments would be encouraged. Additionally, the residential units in existing two story structures in the corridor that are located above commercial businesses would no longer be non-conforming uses. This policy would allow for the mix of uses that were identified as desirable in the goals and objectives of the Columbia Township Comprehensive Plan.

6.4 Increase Maximum Building Height

To promote the construction of mixed use buildings and provide a greater opportunity for redevelopment, the maximum building height should be increased from 35 feet to 45 feet.

Rationale: The potential for construction of new mixed use buildings, with first floor retail and upper story residential and/or office uses, would be greatly increased by allowing three story buildings in the corridor. The current 35 foot maximum height requirement may not permit the construction of a 3 story building. Buildings in the corridor should be limited to 3 stories and 45 feet in height to encourage redevelopment of vacant or underutilized properties with new mixed use buildings. This would also provide a greater variety of alternatives for redevelopment and improvement of the corridor.

6.5 Increase Maximum Residential Density

To promote the construction of mixed use buildings and provide a greater opportunity for residential construction as an accessory to commercial uses, the maximum density for residential uses should be increased from one unit per 3,000 square feet of lot area to one unit per 2,000 square feet of lot area.

Rationale: The current requirement of one unit per 3,000 square feet of lot area would not permit a residential unit above a commercial use on a 2,500 square-foot lot. As stated above, the majority of lots in the corridor are less than 5,000 square feet. By reducing the minimum size of property required for residential uses, thus increasing the permitted density, a building on a 4,000 square foot lot would be permitted to contain two residential units rather than one. This increased density would again offer more alternatives for redevelopment of underutilized properties and would allow existing residential units in the corridor to be a permitted use in commercial buildings.

6.6 Regulate Building Materials

To improve the street facades of all new buildings and create an aesthetically pleasing streetscape, all building facades that face a public street (excluding windows and other glass areas) and all gas pump canopy supports should be constructed of brick, stone masonry, or painted/stained wood, with the use of flat-faced concrete block and plain concrete walls specifically prohibited.

Rationale: To ensure that the quality of development and redevelopment in the corridor is aesthetically pleasing and developed with a certain amount of compatibility, buildings should be constructed of some type of brick, masonry, or wood. This requirement would apply to any building façade that faces a public street. This requirement would also be applied to gas station canopy supports. Controlling the materials that can be used on building facades and canopy supports within the area would protect both the residents of the area and potential business owners from an adjacent property being constructed of

flat-faced concrete block or metal siding and diminishing the value and aesthetics of their properties. These requirements will, over time as properties are redeveloped or rehabilitated, improve the aesthetics of the corridor and enhance the character of the existing buildings in the corridor that are already constructed of brick, masonry, or wood.

6.7 Regulate Building Roof Styles

To reduce the negative impact of single story flat roof buildings on the character of the area, all new one-story buildings or building additions should be required to utilize gabled or hipped style, shingled roofs and flat or single pitch (shed style) roofs should be prohibited.

Rationale: To ensure that the quality of development and redevelopment in the corridor area is aesthetically pleasing, flat roofs or single pitch (shed) style roofs should be prohibited for all one-story buildings. This would address the negative effect that one-story buildings have on the roof line of the corridor. A gabled or hipped roof on a one-story building would increase the height of the building as viewed from the street and encourage a more uniform height of buildings, which would improve the aesthetics and character of the area. Several of the one-story buildings in the corridor currently have gabled roofs.

6.8 Require Ground Floor Transparency

To eliminate the potential for large expanses of blank walls, clear or tinted windows (excluding mirrored surfaces) should be required to occupy 50% of the first floor façade of all new buildings or building additions that face Plainville Road and 25% of the first floor façade of all new buildings or building additions that face any other street. All windows should either be picture/display windows or residential in nature.

Rationale: Large expanses of blank walls, not broken by any windows, could be detrimental to the appearance of the corridor from the street. Picture or display type windows would be considered as those windows that begin a short distance from the ground and extend up to the ceiling level of the first floor. The picture windows would be required on any façade(s) of a building that face a public street. Residential windows would be smaller, double hung or other residential type windows that would be spaced evenly across a façade to imitate surrounding single-family structures.

6.9 Reduce Signage Size, Area, and Setback Requirements

To require signage in the corridor that relates to the limited size of future development and redevelopment sites, the maximum height for all freestanding signs should be limited to 6 feet and the maximum area should be limited to 32 square feet per side. Additionally, to improve the visibility of the smaller freestanding sign, the required sign setback of 10 feet from the right-of-way should be reduced such that there is no required setback from the right-of-way. Building signage should similarly be reduced from 1.5 square feet of sign area per linear foot of building façade to 1 square foot per linear foot of building façade.

Rationale: Because of the small parcel size and limited depth of properties on Plainville Road, reducing the size of signage permitted by the Zoning Resolution would be appropriate. Also, the current requirement for all freestanding signs to be located 10 feet back from the right-of-way would not be appropriate since buildings would not be required to have any setback and may actually block the visibility of signage on adjacent parcels if the signs are required to be setback. The permitted size of building signage, including awning signs, would be reduced as well to limit the size of signs and require a more aesthetic streetscape in the corridor.

6.10 Modify Streetscape Requirement

To reflect the reduction in the front yard building setback identified above, the requirement for a 10-foot landscape buffer adjacent to all public right-of-way lines should be waived for the area between the building and the right-of-way line only where the building would be located less than 10 feet from the right-of-way. In all other cases, the 10-foot streetscape buffer should still be required. Additionally, to improve the aesthetics of setback buildings and parking areas, the amount of landscaping in a required streetscape buffer area should be doubled from 1.5 trees and 20 shrubs per 100 linear feet of frontage, as currently required by the Zoning Resolution, to 3 trees and 40 shrubs per 100 linear feet of frontage. Ornamental trees (generally smaller flowering trees) would be permitted in the streetscape area as well where currently only canopy trees (large trees such as elms and oaks) are permitted.

Rationale: Requiring a 10-foot streetscape in front of all buildings would defeat the purpose of removing the front yard setback requirement to allow the buildings to be built up to the sidewalk. However, where properties are developed or redeveloped to include a building setback or a parking area along the street, the streetscape landscaping should still be required and landscape materials should be increased to improve the aesthetics of the corridor. In addition, smaller ornamental trees would be appropriate to reflect the smaller scale of development in the corridor and the spreading nature of most ornamental trees would fill the void created by a parking area in the façade line of the corridor. Few properties currently include any type of streetscape landscaping along Plainville Road, which diminishes the character of the area. Doubling the amount of landscaping required along the street would ensure that future parking areas are completely screened from direct view of public streets. A well landscaped corridor where all parking areas include a buffer of trees and shrubs would be a great improvement over the existing condition. This requirement would be separate from any public streetscape improvements provided by the township in the public right-of-way.

6.11 Modify Boundary Buffer Requirements

To reflect the limited depth of properties in the corridor and high intensity of development, the Boundary Buffer requirements of the Zoning Resolution should be modified such that the range of buffer widths is reduced from 10-60 feet depending on intensity to 10-20 feet.

Rationale: Currently, the Zoning Resolution requires a range of minimum Boundary Buffer widths depending on the use and intensity of the development parcels compared to the use and intensity of adjacent parcels. The most common type of buffer is required between commercial uses and residential uses. The more intense the commercial use, the greater the width of the required buffer. Because intensity is determined by lot coverage (the higher the lot coverage the more intense), some uses within the corridor, that currently have a high lot coverage, would be required to provide a 60 foot wide buffer. This size buffer is unrealistic given the small size of parcels and limited depth of properties in the corridor. A 20 foot wide buffer would provide enough area to locate the required landscape materials and would offer adequate protection of adjacent single-family homes from noise and light nuisances typically associated with commercial uses.

6.12 Reduce Off-Street Parking Requirement

To reflect the availability of on-street parking in the corridor and the limited size of parcels, the amount of required off-street parking should be reduced by 50% for all uses.

Rationale: The amount of parking required by the Zoning Resolution does not account for the availability of on-street parking and generally requires a maximum number of spaces so that there will always be available parking spaces. This is generally more appropriate for suburban development where there are very few walk up customers and limited alternatives for parking. There is limited ability in the corridor to provide the amount of parking typically required for suburban development. This may be another hindrance to development and redevelopment in the corridor. Allowing reduced off-street parking will free up space on existing parcels and expand the alternatives for development and redevelopment within the corridor.

6.13 Improve Vehicular Connections

To promote better access management practices and reduce the potential safety hazard related to numerous, unconnected parking areas, all retail and office uses should provide access easements and construct access drives for future connection of vehicular use areas between adjacent uses.

Rationale: The cumulative effect of allowing individual uses to have separate parking lots that do not connect to adjacent parking areas can be easily seen along many older commercial corridors in the county. Requiring access easements and the construction of access drives between adjacent parking areas would effectively limit the need for cars to access Plainville Road to get between adjacent uses.

7. FURTHER RECOMMENDATIONS

7.1 Thoroughfare Plan Compliance

Because the properties on Plainville Road have a limited depth, many buildings are located close to the street, and there would likely be little benefit from requiring right-ofway dedication for this small section of roadway, Thoroughfare Plan compliance should not be required as part of the PUD process for developments in the corridor.

Rationale: The dedication of right-of-way associated with the current classification of Plainville Road as a Minor Arterial would result in severely limiting the buildable area of many lots in the corridor. As mentioned earlier, the required 100 foot right-of-way width for Minor Arterials would require property owners and potential developers to dedicate an additional 20 feet of property along Plainville Road. Many structures in the corridor are currently located at the edge of the existing 60-foot wide right-of-way line. Removing the current requirement for compliance with the Thoroughfare Plan as part of the PUD process would eliminate the problem of right-of-way dedication and allow for a greater buildable area on lots that have the potential for redevelopment. In addition, use of Plainville Road as a through street providing access to I-71 will likely be diminished with the recent completion of major construction on Red Bank Road. With the potential construction of the State Route 32 bypass, which would likely connect to Red Bank Road, the use of Plainville Road as a major route to I-71 may be further diminished, lessening the need for additional right-of-way dedication.

Should problems arise from this recommendation, an alternative method to accomplish this goal would be to raise the maximum impervious surface ratio for the "E" Retail district from 60% to 85% for the corridor. An impervious surface ratio of 85% on a 30-foot by 125-foot lot (a typical lot size in the corridor) would permit the construction of a building up to the sidewalk across the entire frontage, with parking to the rear and a 20-foot deep boundary buffer yard across the rear property line. Raising the maximum ISR would reduce the amount of required PUDs in the corridor. Commercial uses would be permitted as-of-right with an ISR up to 85% and could be permitted as a PUD with an ISR above 85%. Reducing the amount of PUDs in the corridor would also reduce the amount of review the township would have of proposed developments. However, developments could only be permitted as-of-right if they meet all of the requirements included in the SPI District.

7.2 Unifying Elements

To complement the improved streetscape regulations contained in the above policies, the township should be encouraged to install, where possible, street trees, benches, banners, decorative lighting, brick or other decorative paving of sidewalks, etc. that will create a unified image for the corridor.

Rationale: The unifying elements described above would go a long way toward improving the aesthetics of the corridor and could provide a quick upgrade to the image of the area and encourage private property owners to make improvements to their properties. The township does understand the impact of this type of program and has requested Block Grant (CDBG) money to purchase these types of public amenities. The township should continue this effort. The reason these types of amenities cannot be required as part of the zoning regulations is that they would be located within the public right-of-way. The Zoning

Resolution does not apply to any public right-of-way. This recommendation would require the township to work with the Hamilton County Engineer, who does have jurisdiction over improvements within the right-of-way. In lieu of public funding for these improvements, the township could work with property owners and the County Engineer to have the improvements provided as part of redevelopment or new development outside of the technical review of zoning requirements.

7.3 Utility Plans

In order to complement the aesthetic recommendations of the SPI Plan and to reduce the amount of visual clutter in the corridor, future developers and property owners should, to the greatest extent possible, be encouraged to work with utility companies to provide underground utilities both on the interior of the property and along the entire public street frontage of the development parcel.

Rationale: Underground utilities have an amazing positive effect on the appearance of a public roadway. Eliminating the clutter that overhead power, phone, and cable lines create would be a dramatic step towards improving the Plainville Road Corridor. However, burying utility lines is generally very expensive and may not be feasible. Additionally, utilities are exempt from zoning control in Columbia Township. However, to the greatest extent possible, developers in the area should be encouraged to discuss the feasibility of providing underground utilities when new development or redevelopment is proposed.

7.4 Vehicular Circulation

Because of the short length of the corridor and the high number of properties that have access to secondary streets, developers should be encouraged to minimize the number of curb-cuts or driveway entrances on Plainville Road to the greatest extent possible.

Rationale: Applications for new driveways are reviewed by the Hamilton County Engineer for compliance with Hamilton County's Access Management regulations. This review would likely accomplish the goal of this recommendation to limit the amount of curb-cuts on Plainville Road. However, emphasis should be given to eliminating the possibility of multiple mid-block access points to Plainville Road to increase the safety of motorists and pedestrians within the corridor.

7.5 Intersection Improvement

To address the confusion and potential safety concern associated with a six-way stop intersection and to provide a unique entrance feature for both Columbia Township and the Village of Mariemont, the township should be encouraged to pursue the possibility of providing an alternative intersection style at Plainville Road and Murray Avenue, potentially including a roundabout.

Rationale: The possibility of providing a roundabout style intersection at Plainville Road and Murray Avenue would both create a unique entrance feature and improve the safety of this main intersection. This style of intersection would involve the cooperation of the Township Trustees, the Village of Mariemont (the majority of land in the intersection is located within the village boundary), and the Hamilton County Engineer. The Plainville Road Corridor and the Village of Mariemont lack a definite entrance feature in this location despite the fact that this intersection is one of the main entrances to both areas. There is no other intersection of this size on a county road that has a roundabout feature. The best example of a true roundabout intersection in Hamilton County can be found near the reflecting pool at Eden Park in the City of Cincinnati. Construction of a roundabout at the Plainville/Murray intersection would bring instant recognition to the area and may even create a tourist attraction of sorts for interested residents from other parts of the county and region. Additional information regarding design and location of roundabout intersections has been provided in Appendix C.

APPENDIX A: OPEN HOUSE COMMENTS

Each participant at the November 17, 2005 Open House meeting was given a blank comment sheet and encouraged to submit any comments, question, or concerns about the proposed development standards. Below are the comment sheets that were received at the meeting.

COMMENT SHEET

Columbia Township and the Regional Planning Commission would like feedback on the proposed development guidelines. Please write your comments in the space provided below. If you need additional space, please write on the back of this sheet. Thank you for attending the Open House Meeting.

Comments: unere my Cause every One I denti with architeto, mont an1. Enhance liler /m huisnesses Would you like to be contacted to discuss your comments? _____YES or ____NO (please $\sqrt{\text{check}}$) If YES, please provide your contact information: Name: 1 MM Address: Phone: E-mail:

Plainville Corridor SPI Plan - Comment Sheet

November 17, 2005

COMMENT SHEET

Columbia Township and the Regional Planning Commission would like feedback on the proposed development guidelines. Please write your comments in the space provided below. If you need additional space, please write on the back of this sheet. Thank you for attending the Open House Meeting.

| K | |
|------------|--|
| 0 | have A working plan follow one that |
| has | worked in MArrement. |
| No | to look like mavie mont but something |
| 40 | plow into our mea in platin ville as. |
| \$ | moder More strict on the eye-Appeal |
| | A the neighborhood, Business need to |
| | Clean up., their Area to Attract |
| | |
| | More DUSINESS. |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| Would yo | u like to be contacted to discuss your comments? X YES or NO (please $$ check) |
| If YES, pl | ease provide your contact information: |
| Address: | 4020 BAINVILLE RO |
| Phone: | 271-6488 Hultschaer(c) Luce, net |
| -man. | |

Plainville Corridor SPI Plan - Comment Sheet

November 17, 2005

APPENDIX B: EXAMPLES OF STANDARDS

EXISTING STANDARDS AND PROPOSED POLICIES:

| | Possible Standards | Existing Standards | New Standard | Example of Existing Standards | Example of Proposed Standards |
|---|--|--|--|-------------------------------|---|
| 1 | Location of buildings (setback and yard requirements) | Front = 30' min. Side = 10'min. Rear = 20' min. | Front = none Side = none Rear = 20' min. | | PARKING |
| 2 | Lot area & width | Min. lot size = 20,000 sq. ft. Min. lot width = 100 ft | Min. lot size = $2,500$ sq. ft. Min. lot width = 30 ft. | | |
| 3 | Land use mix | Residential uses not permitted | Residential uses permissible only if accessory to a commercial use (i.e. second or third story living units) | Majov Street | RESIDENTIAL H III COMMERCIAL N Major etrect |
| 4 | Height | Maximum height = 35' | Increase to max. height of 45 ft. to allow three story buildings | | |
| 5 | Density | Residential density = max. of 1 dwelling unit per 3,000 square feet of lot area | Increase density to 1 dwelling unit per 2,000 square feet of lot area | | |

| | Possible Standards | Existing Standards | New Standard | Example of Existing Standards | Example of Proposed Standards |
|---|--|---|--|-------------------------------|--------------------------------------|
| 6 | Architectural character of buildings | None | Require new/expanded buildings to have brick, stone masonry, or painted wood exteriors on facades facing a public street Require hipped or pitched roofs for all new/expanded one story buildings Require first floor of new/expanded commercial buildings to have a minimum of 50% transparency for facades that face Plainville Road and 25% transparency for facades that face any other public street | | |
| 7 | Signage | <i>Freestanding</i> = 28' high max. with max. area up to 150 sq. ft. (based on length of frontage) 10' min. setback from right-of-way <i>Building</i> = 1.5 sq. ft. per linear foot of building façade | Restrict freestanding signs to monument style signs with a maximum height of 6 ft. and 32 sq. ft in sign area No required sign setback from right- of-way Restrict building signs to 1 sq. ft. per linear foot of building façade | | 1477 United Dairy 1579 Parmers |
| 8 | Streetscape | Required along all streets with a min. width of 10' and landscaping to include 1.5 canopy trees & 20 shrubs for every 100 linear feet of frontage | No streetscape required in front of buildings if located less than 10 ft from right-of-way; 10 ft. required in front of all other buildings and all parking areas Require twice as much landscaping within the 10 ft. area (3 trees and 40 shrubs per 100 linear feet of frontage) and require ornamental trees instead of canopy trees | ₹ | |

| | Possible Standards | Existing Standards | New Standard | Example of Existing Standards | Example of Proposed Standards |
|----|--------------------------|--|--|---|--|
| 9 | Boundary buffers | Buffer required when adjacent to lower intensity land uses, width of buffer based on intensity of uses; varies from 10-60 ft. | Require a boundary buffer adjacent to all residential uses that varies from 10-20 ft. based on intensity of use | A WARIES 60' | |
| 10 | Parking | Off-street parking required for all uses | Reduce the amount of required off street parking for all uses in the corridor by 50% | 3000 sq. ft. general retail use Required parking = 15 3000 sq. ft. professional office use Required parking = 8 3000 sq. ft. restaurant use Required parking = 30 | 3000 sq. ft. general retail use Proposed parking = 8 3000 sq. ft. professional office use Proposed parking = 4 3000 sq. ft. restaurant use Proposed parking = 15 |
| 11 | Vehicular Circulation | None | Require easements for future parking lot connectivity where parking areas abut each other as part of development or redevelopment | | |

EXISTING STANDARDS AND FURTHER RECOMMENDATIONS:

| | Possible Standards | Existing Standards | New Standard | Example (Undesirable) | Example (Desirable)s |
|---|--------------------------------|--|--|-----------------------|----------------------|
| 1 | Thoroughfare Plan Amendment | Plainville Road = Minor Collector, 100 ft. right-of-way width | Change to a Collector Road with an 80 ft. recommended right-of-way width | | |
| 2 | Unifying elements | None | Encourage installation of street furniture, lighting, banners, etc. that can provide a common image and theme for the corridor | | |
| 3 | Utility Plans | None | Encourage new developments to install underground utilities | | |
| 4 | Vehicular Circulation | Regulated by County Engineer | Encourage shared access drives and reduction of curb-cuts along Plainville Road | | |
| 5 | Vehicular Circulation | Traffic engineers for local jurisdictions regulate modifications | Encourage further study of improving the six-way intersection at south end of corridor with construction of a roundabout and major entrance feature for corridor | STOP | |

APPENDIX C: ROUNDABOUT INTERSECTION INFORMATION

INTRODUCTION

A roundabout is a form of intersection design and control which accommodates traffic flow in one direction around a central island, operates with yield control at the entry point, and gives priority to vehicles within the roundabout (circulating flow).



Source: Taekratok 1998, pg 33

Central island The central island is the raised area in the center of a roundabout around which traffic circulates.

Splitter island A splitter island is a raised or painted area on an approach used to separate entering from exiting traffic, deflect and slow entering traffic, and provide storage space for pedestrians crossing the road in two stages.

Circulatory roadway The circulatory roadway is the curved path used by vehicles to travel in a counterclockwise fashion around the central island

Apron If required on smaller roundabouts to accommodate the wheel tracking of large vehicles, an apron is the mountable portion of the central island adjacent to the circulatory roadway.

Yield line A yield line is a pavement marking used to mark the point of entry from an approach into the circulatory roadway and is generally marked along the inscribed circle. Entering vehicles must yield to any circulating traffic coming from the left before crossing this line into the circulatory roadway.

Accessible pedestrian crossings Accessible pedestrian crossings should be provided at all roundabouts. The crossing location is set back from the yield line, and the splitter island is cut to allow pedestrians, wheelchairs, strollers, and bicycles to pass through.

Bicycle treatments Bicycle treatments at roundabouts provide bicyclists the option of traveling through the roundabout either as a vehicle or as a pedestrian, depending on the bicyclist's level of comfort.

Landscaping buffer Landscaping buffers are provided at most roundabouts to separate vehicular and pedestrian traffic and to encourage pedestrians to cross only at the designated crossing locations. Landscaping buffers can also significantly improve the aesthetics of the intersection.

ROUNDABOUT DESIGN

The following are some case studies comparing the different roundabout designs

| | Location | Circulating Flow (in vehicles | Inscribed Circle | Entry Lane |
|-------------|------------------|--------------------------------------|--------------------|------------|
| | | per hour) | Diameter (in feet) | Width |
| 4 Leg | Palm Beach | 350 | 100 | 13 |
| Roundabouts | County, FL | | | |
| | Lisbon, MD | 350 | 100 | 13 |
| | Bradenton Beach, | 600 | 66 | 13 |
| | FL | | | |
| | Boca Raton, FL | 900 | 160 | 13 |
| 5 Leg | Vail, CO | 2,700 | 120 | - |
| Roundabouts | | | | |
| 6 Leg | Vail, CO | 5,200 | 200 | - |
| Roundabouts | | | | |

Source: Taekratok 1998, pg 78; Ourston Roundabout Engineering 2004.

General Design Considerations:

- 1. Design layouts should accommodate the largest design vehicles (heavy duty trailers etc.) likely to use roundabouts. It should also take care of bus, emergency vehicles or special purpose vehicles.
- 2. For small roundabouts, the negotiated speed through the roundabout should be restricted to less than 40 km/h (25 mph). When pedestrian volumes are high, the speed should be even lower.
- 3. In general, roundabouts should not have more than four legs. More access points will increase drivers' confusion. A 90-degree angle between each leg is the most preferable treatment. This will help guide drivers traveling through roundabouts with less confusion finding the exit legs.
- 4. Entry and exit widths will vary depending on the geometry of roundabouts and the design vehicles. Entry and exit lane widths directly affect the location of the vehicle paths through roundabouts. For single lane roundabouts, entry, exit, and circulating lanes should provide sufficient space to accommodate vehicles passing a stalled vehicle. Smaller entry and exit widths are recommended in order to decrease speed through roundabouts, thus reducing accidents. However, these smaller widths will result in longer delays and capacity reduction.
- 5. Wide circulating lanes may encourage drivers to travel at higher speeds and cause slipping on wet pavement; this creates a risk for bicyclists and should be avoided. It is recommended that the width should be 1.0 to 1.2 times the maximum entry width and should accommodate truck movement safely.
- 6. Entry and exit curves should provide for smooth maneuvering through roundabouts while providing sufficient deflection. A sharp curve should not be used because it gives minimum separation between two adjacent legs. Single radii between two adjacent legs encourage drivers to increase their speeds, thus a three-centered curve is recommended. For pedestrian safety, exit curves should be designed so as drivers will not abruptly increase their speed while leaving.
- 7. Deflection at roundabouts is required to slow down all drivers. The operational speed through a roundabout should be kept within the safe speed (40 km/h (25 mph)). The maximum radius of curvature from the center of the central island to a vehicle path should be at least 75 m (250 ft) (V=40 km/h, e=0, f=0.17). The distance between the edge of the central island and vehicle path should be 1.5 to 2.0 m (5 to 6.5 ft).
- 8. The size of the central island should be determined principally by the space available and the need to obtain sufficient deflection. In areas where drivers are likely to be unfamiliar with roundabout operation, a larger central island is recommended.
- 9. Splitter islands are used to provide pedestrian refuge and direct approaching vehicles. The size of a splitter island should be sufficient for both pedestrians and those using wheelchairs. In areas where pedestrian volumes are high and vehicle speeds are low (less than 30 km/h (20 mph)), it is preferable to build a cut-through path in the raised island. Splitter island length varies with approach speed.

FEASIBILITY

Roundabouts may be appropriate in the following situations:

- At intersections where traffic volumes on the intersecting roads are such that STOP or YIELD signs or the T intersection rule result in unacceptable delays for the minor road traffic. In these situations, roundabouts would decrease delays to minor road traffic, but increase delays to the major road traffic.
- At intersections where traffic signals would result in greater delays than a roundabout. It should be noted that in many situations roundabouts provide a similar capacity to signals, but many operate with lower delays and better safety, particularly in off-peak periods.
- At intersections where there are high proportions of left-turning traffic. Unlike most other intersection treatments, roundabouts can operate efficiently with high volumes of left-turning vehicles.
- At intersections with more than four legs. If one or more legs cannot be closed or relocated, or some turns prohibited, roundabouts can provide a convenient and effective treatment. With STOP or YIELD signs, it is often not practical to define priorities adequately, and signals may be less efficient due to the large number of phases required (resulting in a high proportion of lost time).
- At cross intersections of local and/or collector roads where a disproportionately high number of accidents occur which involve either crossing traffic or turning movements. In these situations, STOP or YIELD signs may make little or no improvement to safety, and traffic signals may not be appropriate because of the low traffic volumes. Roundabouts, however, have been shown to reduce the casualty accident rates at local and/or collector road intersections.
- On local roads, and to a lesser extent on arterial roads, roundabouts can improve safety and neighborhood traffic management.
- At rural cross intersections (including those in high-speed areas) where there is an accident problem involving crossing or left turn (vs. opposing) traffic. However, if the traffic flow on the lower volume road is less than about 200 vehicles per day, consideration could be given to using a staggered T treatment.
- At intersections of arterial roads in outer urban areas where traffic speeds are high and left turning traffic flows are high. A well-designed roundabout could have an advantage over traffic signals in reducing left turn opposed type accidents and overall delays.
- At T or cross intersections where the major traffic route turns through a right angle. This often occurs on highways in country towns. In these situations the major movements within the intersection are turning movements which are accommodated effectively and safely at roundabouts.
- Where major roads intersect at Y or T junctions, as these usually involve a high proportion of left turning traffic.
- At locations where traffic growth is expected to be high and where future traffic patterns are uncertain or changeable.
- At intersections of local roads where it is desirable not to give priority to either road.

Roundabouts may be inappropriate in situations

- Where a major road intersects a minor road and a roundabout would result in unacceptable delay to the major road traffic. A roundabout causes delay and deflection to all traffic, whereas control by STOP or YIELD signs or the T intersection rule would result in delays to only the minor road traffic (Taekratok 1998, pg 11).
- Where a satisfactory geometric design cannot be provided due to insufficient space or unfavorable topography or unacceptably high cost of construction, including property acquisition, service relocations etc.
- Where there is considerable pedestrian activity and due to high traffic volumes it would be difficult for pedestrians to cross either road. (This may be overcome by the provision of pedestrian crossing facilities on each leg of the roundabout).
- Where large combination vehicles or over-dimensional vehicles frequently use the intersection and insufficient space is available to provide for the required geometric layout.

REFERENCES

Taekratok, Thaweesak. 1998. *Modern Roundabouts for Oregon*. Oregon Department of Transportation Research Unit; Salem, OR.

Federal Highway Administration. 2000. *Roundabouts: An Informational Guide*. US Department of Transportation; McClean, VA.

Ourston Roundabout Engineering. 2004; Available online at: http://www.ourston.com/vail.html