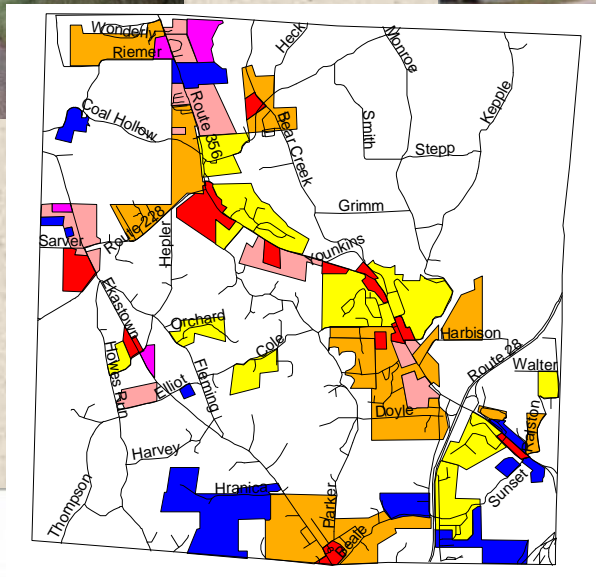


Buffalo Township Land Use and Transportation Initiative



June 2002



BUFFALO TOWNSHIP
LAND USE
AND
TRANSPORTATION INITIATIVE

June 2002

Project Planner

Graney, Grossman, Ray, Colosimo and Associates, Inc.
Grove City, Pennsylvania

Transportation Engineer

Herbert, Rowland and Grubic, Inc.
Cranberry Township, Pennsylvania

The preparation of this report was financed in part through a grant from the Pennsylvania Department of Transportation, the United States Department of Transportation, and the Southwestern Pennsylvania Commission. A portion of funding was also provided by Buffalo Township.

The contents of this report reflect the views of the author who is responsible for the facts and the accuracy of the data presented herein. The contents do not necessarily reflect the official views or policies of the Pennsylvania Department of Transportation, the United States Department of Transportation, the Southwestern Pennsylvania Commission, or the Southwestern Pennsylvania Corporation. This report does not constitute a standard, specification, or regulation.

BUFFALO TOWNSHIP

**LAND USE
AND
TRANSPORTATION INITIATIVE**

Buffalo Township Supervisors

David L. Wilson, Chairman

Albert T. Roenigk	Terry L. Bergbigler
Marianne L. Hill	Linda Stover

Buffalo Township Advisory Committee

Ray Balicki	Frank Prazenica
Harry Crytzer	Albert T. Roenigk
Rich Gregori	Marty Roethlein
Ken Hespenheid	Ken Simpson
Marianne L. Hill	Ray Smetana
Roger Kelly	Linda Stover
Larry Lutz	Paul Tagmyer
Terry Medovitch	Ernie Westerman

David L. Wilson

Dennis Semsick, Pennsylvania Department of Transportation
David P. Johnson, Butler County Planning Director

Southwestern Pennsylvania Commission

Prudence Larson, Senior Transportation Planner

TABLE OF CONTENTS

Part I – Existing Conditions

Review of Existing Land Use Regulations	Page 2
Estimating Future Growth and Development in Buffalo Township and Its Environs	Page 9
Existing Conditions Analysis: Environmental Conditions and Land Use	Page 12
Build-Out Scenarios	Page 16
Transportation Analysis	Page 18

Part II – Vision Building Process

Page 36

Part III - Land Use and Transportation Plan

Introduction and Initial Land Use Plan	Page 41
Short-Term Land Use Action Plan	Page 44
Long-Term Land Use Action Plan	Page 46
Transportation Improvements Plan	Page 48
Conclusions: A Summary of Land Use and Transportation Recommendations	Page 59

List of Maps

• Generalized Zoning Districts	Follows Page 8
• Environmental Conditions	Follows Page 14
• Existing Land Use/ Build-Out Scenarios	Follows Page 16
• Functional Class and Average Daily Traffic	Follows Page 20
• Accident History in Study Location Corridor	Follows Page 24
• Current and Projected Average Daily Traffic	Follows Page 32
• Study Intersection and Traffic Count Locations	Follows Page 34
• Visioning	Follows Page 37
• Key Plan Concepts	Follows Page 41
• Transportation Improvements	Follows Page 49
• Study Intersection Index	Follows Page 62

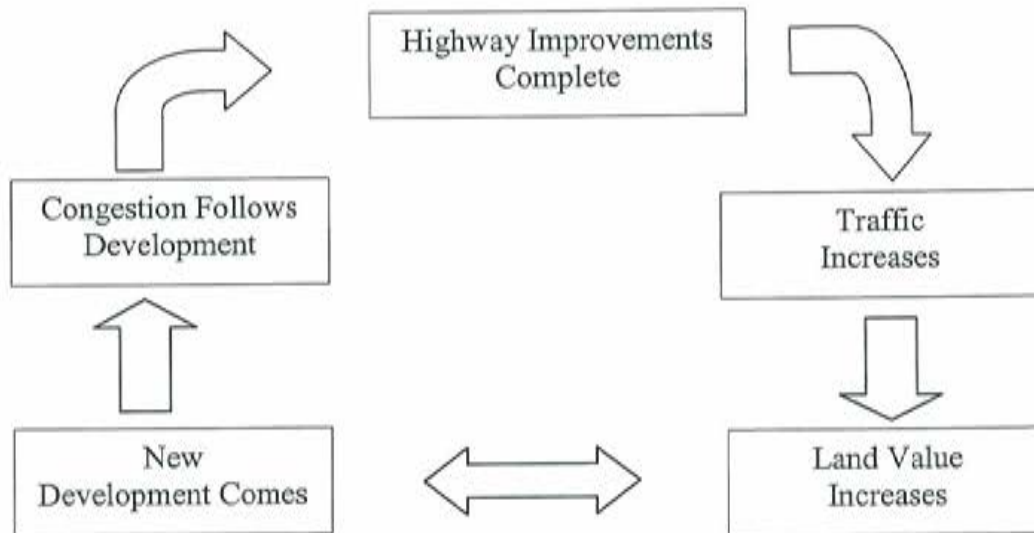
Appendices

Appendix I – Zoning Amendments List	Page 67
Appendix II – Final Results – A Summary of the Sketch Plan	Page 69
Appendix III – Subdivision Street Classification	Page 76
Appendix IV – Overlay Zone Text	Page 82
Appendix V – Sign Regulations	Page 89

Full Technical Appendices are Published Separately and Available From The Township.

BUFFALO TOWNSHIP LAND USE AND TRANSPORTATION INITIATIVE

Introduction: Growth and transportation improvements are absolutely intertwined. Many communities have invested in transportation infrastructure only to see themselves trapped in a cycle of road improvements, subsequent growth, traffic congestion, and the need for more improvements. As the chart below depicts, this is like a puppy chasing its own tail.



Part of the problem which leads to this potentially endless cycle is that land use planners (who help make decisions about future growth) and transportation engineers (who help make decisions about transportation improvements) frequently work separately from each other. Consequently, they develop recommendations which can actually contradict the work of the other.

This study is an attempt to look at one community, study the situation, and develop a program which can simultaneously address transportation and land use concerns.

Buffalo Township and the surrounding communities represent a typical Butler County situation where continued growth and development can be expected. The Township itself gained 8.07 percent population from 1990 to 2000, with all surrounding townships gaining as well. Of particular note is Jefferson Township, which gained 18.25 percent and Saxonburg, which gained 21.12 percent.

In the context of western Pennsylvania as a whole, these numbers are impressive, but even more impressive is the gain in housing units (due largely to decreases in household size).

HOUSING UNIT GAINS SOUTHEASTERN BUTLER COUNTY 1990-2000				
Place	1990 Housing Units	2000 Housing Units	Change	Percent
Buffalo Township	2,321	2,612	+291	+12.54%
Clinton Township	962	1,075	+113	+11.75%
Jefferson Township	1,682	1,970	+288	+17.12%
Winfield Township	1,141	1,381	+240	+21.03%
Saxonburg	580	713	+133	+22.93

When it is remembered that these homes built in the past decade are occupying an average from one third to one acre, and that each home is generating 10 to 12 vehicles trips per day, the planning implications for transportation and land use are tremendous. These five communities alone are dealing with perhaps one square mile of new development and as many as 14,000 vehicle trips per day on their roads. Since Buffalo Township is the primary gateway to employment centers in Allegheny County, it can be expected that much of this new traffic is passing through its jurisdiction. Because of the way roads lead into Allegheny County via major interchanges, Buffalo Township is at the tip of a funnel for traffic; and more cars are being poured into the funnel.

Physical improvements alone will not address transportation problems caused by development. Land use policies alone will not affect road capacity and safety. This Plan is intended to address that relationship without discouraging new growth and development, but developing a plan which facilitates the needs of development and preserves quality of life.

PART I – EXISTING CONDITIONS REVIEW OF EXISTING LAND USE REGULATIONS

In reviewing any local land use regulations, there are two general concerns: administrative issues and planning issues. Administrative issues are simply whether the ordinance is internally consistent (making sure there are no contradictory standards), procedurally consistent with the State Planning Code, and finally written and arranged in a sensible, understandable way. Planning issues

revolve around whether the ordinance is achieving the community's future development goals. For example, if extension of public sewer is a local priority, does the ordinance mandate new development near existing lines to connect? Does it have provisions to encourage developers to look for such sites? Of the administrative versus planning issues, administrative items are usually items that should be changed by the local government relatively quickly. Planning items should only be changed after significant community input and discussion. However, the review can serve the community by asking the right questions which can lead to the development of a systematic approach to planning issues. Since this project is primarily examining the relationships between land use and transportation, that will be the central focus of the planning review.

Buffalo Township has enacted both a subdivision and land development ordinance (referred to in planner jargon as a "SALDO") and a zoning ordinance. For those who are not familiar with the enabling and objectives of each, some background may be helpful. In Pennsylvania, municipalities are viewed as creations of the Commonwealth, so their power is granted by the legislature. The limits and extent of such powers are contained in enabling legislation, such as the Township Code and, most important, the Pennsylvania Municipalities Planning Code (called the "MPC" in planner jargon).

Subdivision regulations are one of the older forms of planning because they deal with the division, resale, and proper measurement of private property. In Pennsylvania, the ordinance must be a subdivision **and** land development ordinance. About 80 percent of Pennsylvania is covered by a SALDO at either the county or municipal level. The purpose of this form of regulation is to establish a clear standard for new lots to be surveyed and recorded, and a mechanism to develop, inspect, and transfer to public ownership new public improvements such as streets. In Pennsylvania, land developments are explicitly defined as two or more residential buildings or one non-residential building. These are to be reviewed, approved, and recorded in a similar fashion as subdivisions. Typically, separate standards are also included for the hybrid form of development known as mobile home parks.

Zoning, as we now know it, was invented by the Germans, and the first modern American ordinance dates from the turn of the 20th century. However, precedents to control the location of certain uses dates from the 17th century, when towns passed ordinances to keep cemeteries and tanneries out of residential areas. About one half of Pennsylvania communities use zoning as a tool to implement their

comprehensive plan. The primary advantage of zoning is that it is one of the few instances that a municipality can regulate different portions of the community in a different manner, based on conditions ranging from pre-existing development to slopes to highway access, or public sewer.

Most zoning regulates density (the number of people, houses, and buildings per acre), type of use (commercial, agricultural, etc.), and intensity (the rate of activities going on at a site). There are four approaches to any use in any district. These are Permitted Uses, Special Exceptions (reviewed and approved by Zoning Hearing Board), Conditional Uses (reviewed and approved by the governing body), and the unwritten law of unlisted uses which cannot be done. If there is a problem in meeting a regulation, there are three forms of relief. These include Variances (a petition to Zoning Hearing Board for dimensional changes only), Amendments (request for a map or text change to the governing body), or the less common Curative Amendment (amendment alleging the ordinance is defective and must be "cured").

The Buffalo Township Subdivision and Land Development Ordinance

Administrative Issues: This Township ordinance (Number 53) was originally adopted in 1982. It has been amended five times since adoption. From an administrative vantage, the ordinance is clearly constructed. Some of the standards are also very cognizant of local realities. For example, it is unusual to see a SALDO address mineral right issues as per Section 202.2 h, or such extensive attention to natural features as included in Section 302. The Township has also recognized evolving practice. After the Planning Code was substantially revised in 1988, the Township passed a corrective amendment acknowledging primacy of MPC standards for review approval and recording. However, this amendment did not specify inconsistencies. This leaves some confusion as to certain standards. For example, 208.2 of the Township ordinance gives developers a ten-year period to construct within the context of the approval. The MPC specifies five years. It is a legal, rather than a planning question whether the Township can extend this right (it is more clear the municipality could not hold a developer to a shorter time period). Another example is the hardship clause (Section 104) which is generally compliant, but does not include the procedure for modifications outlined in Section 512.1 of the MPC. Another area of confusion is Section 412, which seems to mandate 15 percent set aside for recreation purposes. Recreation set asides in Pennsylvania must be either linked to a recreation plan or be an optional

requirement, frequently tied to a bonus of some sort. Conversely, other standards, such as Section 209, specify recording which seems to be generally compliant. The main issue with this ordinance was use of a single-purpose amendment to ferret out which standards are compliant, making the ordinance somewhat more difficult to use. A second issue is whether procedures not included in this ordinance but mandated by the MPC are being followed in everyday practice. Both should be examined by the Township Solicitor.

A second administrative issue is the treatment of certain standards by ordinance which could possibly be treated through standards adopted by resolution. Typical practice in Pennsylvania is for a design standard, such as road width, to be included in the ordinance, while a construction standard, such as paving, is adopted as a resolution and referred to in the ordinance. This enables the Township to change construction specifications without an amendment. Amendments #2 and #3 changed the paving requirements of Section 404. A change of this sort has been apparently done with fees, as Resolution 2001-5, refers to fee schedules references in 413 (mobile home parks).

The mobile home park section also includes a number of plan requirements which mirror those for subdivision. It may be possible to shorten the ordinance by clearly indicating that mobile home parks must utilize the two-stage plan processing standards required for a major subdivision, and that all standards for subdivisions apply except where specified otherwise. This section also appears to have incorporated some standards from a mobile home park licensing ordinance into the SALDO, including old Department of Health/DER standards. It may be valuable to work with the solicitor to separate the licensing functions from plan approval and design standards.

Finally, there is some confusion as to the treatments of land development by the ordinance. There is a definition of land development which mirrors the MPC, though it is not identical. However, there is no clear standard for land development otherwise. Article II standards for compliance refer explicitly to subdivisions.

Planning Issues: In the world of Pennsylvania planning, there are few maxims. Communities have the right to make choices. However, each choice will affect how the community will look and function into the future. Within this context, the following are not meant as criticism, only observations for discussion as to whether

certain standards are meeting community goals. Again, the focus is primarily on the relationship of land use standards to transportation.

The Buffalo Township SALDO has typical suburban standards for new streets. The use of local streets for through traffic is generally not permitted. Cul-de-sacs are limited to 500 feet in length and must have a paved surface of 80 feet (it is unclear whether this is diameter or radius). Alleys are not permitted for residential development. All streets must have a paved surface of 24 feet in width, excluding curbing. Wider paving width can be required by the governing body. The ordinance does not mandate pedestrian access of any sort, with the exception of very long blocks, where mid-block pedestrian cuts may be required. The ordinance also has standards to control access to arterials by preventing new streets from commercial or industrial subdivisions from being within 500 feet of another such street on the same side of the arterial. A similar standard prevents parallel streets from lying within 125 feet of each other.

One striking aspect of the Buffalo Township regulations is their uniformity. Some planning practice has departed from this approach by developing street standards linked to the function of the proposed street and the context of the neighborhood. For example, it has been found that excessively wide streets can encourage speeding in residential areas. Thus, some communities have established low standards for lower-volume streets, in some cases as low as 18 feet wide. Other standards are developed to encourage inter-connectivity, based on studies that *moderate* through traffic is not detrimental to residential neighborhoods. Volume can be accurately based on street function by counting the number of lots to be served and multiplying that by 10-12 vehicle trips per day. Other approaches are simply based on the density of development. For example, a subdivision of lots averaging 2 acres each has a lower road standard than a subdivision which has 3 lots per acre. Sidewalks are also being more frequently required in all but the most rural subdivisions. The evolving standards are reflecting one consistent theme: as communities grow and change, they are learning that one size does not fit all situations.

The Buffalo Township Zoning Ordinance

Administrative Issues: This is Township Ordinance No. 55. It is unclear when it was first adopted, though the first amendment dates from 1983. This ordinance has been amended 52 times. As these amendments run to more pages than the original ordinance, this does affect the user-friendliness of the ordinance. For example,

amendment Number 54 includes an entirely new edition of Table 201, which represents the heart of the ordinance. With the solicitor's input, it may be possible to do a reprinting which comprehensively integrates the amendments into a cohesive document. A summary history of these amendments is included in the appendix.

Beyond the somewhat cumbersome format due to attached amendments, this is a modern tabular ordinance, rather than archaic narrative forms. The average developer can view Table 201 and immediately see the regulations which apply.

One administrative curiosity is Section 308 (Site Plan approval). This entails a typical land development standard which is typically found in a SALDO rather than a zoning ordinance. Practically, this may be preferable, but the issue should be examined by the solicitor relative to MPC consistency.

Planning Considerations: The ordinance divides the Township into 8 zoning districts, 7 of which are depicted on the Zoning Map (the exception being floodplains). A color informational zoning map is attached. Residential lot standards are 40,000 square feet in all districts without public sewer, with a minimum lot width of 150 feet. This would result in a minimum compliant lot of 150 x 266 feet. With sewer, the minimum is 20,000 square feet and 100 feet wide. A minimum compliant lot would measure 100 x 200 feet, which would in effect largely preclude the parallel street prohibition of 125 feet in the SALDO. B-1 and B-2 standards are based on the 20,000 square-foot standard, with industrial standards returning to 40,000 square feet. One question not readily discernable is whether M-1 uses, permitted conditionally in B-1 and B-2, could develop at the higher density.

One aspect of these density standards which may be examined geographically is the lack of change between the agriculture and residential districts. Some communities require larger lot standards in agricultural areas in recognition that utilities will not be extended and to limit density where public improvements are not planned. Many R-2 districts also permit higher densities than R-1 areas. For example, without public sewer, a community may require a minimum lot size of 80,000 square feet in agricultural areas, but only 40,000 in residentially zoned areas. Where sewer is present, the standard might be reduced from 20,000 square feet in R-1 to 15,000 in R-2.

One issue in terms of density which the Township has dealt with in a very forthright manner is a limitation of the creation of new lots in agriculturally zoned areas. No more than 5 additional new lots can be created. The creation of more new lots would require re-zoning to an "R" District. The Township has properly recognized that re-zoning is the action over which they can retain the most control.

Of particular interest in terms of transportation are standards for parking and any standards to mitigate the effects of vehicular traffic. Parking requirements of the ordinance are contained in Section 305. Parking lots for more than 5 vehicles must be graded and dust free, and lighting must be designed to not adversely affect residential areas. Minimum standards are also included for the number of parking spaces. A key standard is the one for retail uses which is 1 parking space to 100 feet of floor space. This will result in about 200 square feet of parking to every 100 square feet under roof.

Studies have shown that parking requirements can be linked to retail type and size. Convenience stores typically need 1 space per 300 square feet of floor space; large shopping centers (13+ acres under roof) need 1 space per 200 square feet. Some communities are thus developing standards to not require much more parking than necessary.

Other communities are adopting standards which require parking lots to be broken up by landscaped permeable surfaces. These function by requiring the perimeter and a portion of the interior of the parking area be retained for trees or landscaping.

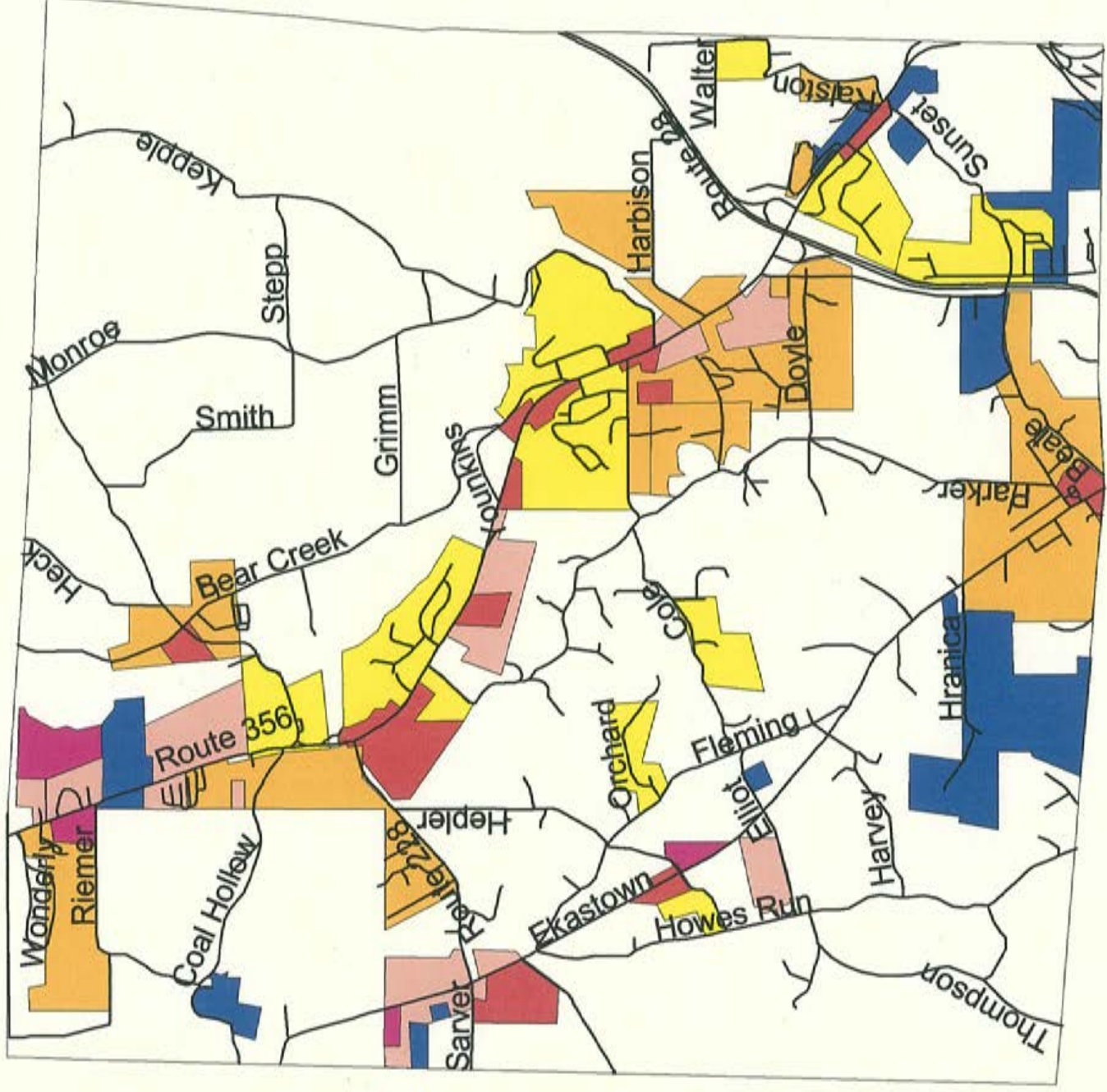
Buffalo Township's zoning ordinance has recognized the need for buffering in its general and district regulations, particularly 207.4 and 303.3. These require planted buffer yards where uses abut residential districts. The largest required buffer is 70 feet.

Signage is a form of development which relates to both vehicular safety and the convenience of the traveling public. However, signage also raises questions about quality of life, particularly the preservation of scenic landscapes. The Township has signage regulations in the zoning ordinance which limit business signs based on the size of the structure but severely limit off-premise or advertising signs. This enters into some complex legal areas involving free speech and restraint of trade which regulations must be carefully crafted to avoid civil rights litigation. Beyond setbacks of 10 feet and height limits of 25 feet, there is no differentiation between

Buffalo Township Land Use and Transportation Initiative

Generalized Zoning Districts

- Roads and Streets
- A-1 Agricultural
- R-1 Residential
- R-2 Residential
- B-1 Business
- B-2 Central Business
- M-1 Manufacturing
- M-2 Manufacturing



The preparation of this report was financed in part through a grant from the:

- United States Department of Transportation
- Pennsylvania Department of Transportation
- Southwestern Pennsylvania Commission

Graney, Grossman, Ray, Colosimo and Associates, Inc.
Project Planners
Herbert, Rowland, and Grubic, Inc.
Transportation Engineers

various sign types (roof, movement, freestanding, etc.) and few site distance criteria.

ESTIMATING FUTURE GROWTH AND DEVELOPMENT IN BUFFALO TOWNSHIP AND ITS ENVIRONS

At its most basic level, planning for future growth and development is an educated guessing game. If planners can estimate how many people will live in the area over the next 10 to 20 years, they can also estimate the amount of land needed for homes, stores, and other needs and how many cars will be traveling the roads. Planners refer to these estimates as projections because they apply past trends to estimate future trends. Without enormous psychic powers, projections are the best guess planners have.

To make projections as accurate as possible, the decennial census can be used as a cross-check. In 1997, the Census Bureau estimated population. The Southwest Pennsylvania Commission used this estimate in their refined Long-Range Forecast of Population, Households, and Employment, 1997-2025. This projection for Buffalo Township is illustrated in the table.

BUFFALO TOWNSHIP POPULATION PROJECTIONS		
Year	Total Population	Change
1997	6,751	
2002	7,941	+1,190
2010	10,396	+2,455
2020	10,741	+345
2025	10,704	-37
Source: Southwestern Pennsylvania Commission		

How accurate is this in terms of what actually is happening? The Census counts for 1990 and 2000 are as follows:

BUFFALO TOWNSHIP POPULATION CHANGE 1990-2000			
Year	Total Population	Change	Percent
1990	6,317		
2000	6,827	+510	+8.07
Source: U.S. Census Bureau			

The five-year projection from 1997 to 2002 assumed a growth rate of about 100 persons per year (which could double by 2010 to 200 persons per year). In reality, the Township actually gained about 50 persons per year between 1990 and 2000. However, when it is considered that typical regional growth was concentrated in the latter part of the decade, it is not unreasonable to assume that growth rates from 1995 to 2000 neared 100 persons per annum. In any event, a population base of 10,000 persons in the Township is not an unreasonable assumption over the next 10 to 20 years.

It should be noted that this growth is nearly all being fueled by in-migration, not natural increase. The Butler County Comprehensive Plan has noted that without in-migration, the County population would have grown 0.3 percent from 1990 to 2000; it actually grew 14.79 percent.

With growth coming from in-migration, rather than natural increase, housing demands rise. Consequently, the growth in numbers of housing units is greater than demographic increase. Buffalo Township gained 291 housing units between 1990 and 2000, an increase of 12.54 percent, compared to a population increase of 8.07 percent. In simple terms, the 510 new residents built a new home for every 1.75 persons. This is consistent with shrinking household sizes elsewhere.

If it is agreed the current population is about 7,000 people, and it may rise to 10,000 over the next 10 to 20 years, the housing implications could be a need for another 1,700 housing units.

From a land use perspective, this could translate to the following:

1,700 homes @ 20,000 square feet/unit = 780 acres, or 1.2 square miles

1,700 homes @ 40,000 square feet/unit = 1,561 acres, or 2.4 square miles

From a transportation impact, this may add another 17,000 vehicle trips per day to road in the Township. All these vehicle trips would not be simultaneously impacting any one road. However, for a perspective on the level of impact, 17,000 vehicle trips is three times the current volume of traffic on Route 356.

While it will not affect residential land use, in Buffalo Township, growth in neighboring townships will have traffic impacts within the municipality. From 1990 to 2000, three neighboring Butler County townships saw the following demographic changes occur.

	1990 Population	2000 Population	Percent Change	Numeric Change
Clinton Township	2,556	2,779	+8.72%	+223
Jefferson Township	4,812	5,690	+18.25%	+878
Winfield Township	3,162	3,585	+13.38%	+423

Neighboring townships also saw a rise in housing above population.

	1990 Housing	2000 Housing	Percent Change	Numeric Change
Clinton Township	962	1,075	+11.75%	+113
Jefferson Township	1,682	1,970	+17.12%	+288
Winfield Township	1,141	1,381	+21.03%	+240

The Southwestern Pennsylvania Commission forecasts indicate no diminishing of this trend.

Year	Clinton Township	Jefferson Township	Winfield Township	Saxonburg Borough
2000	2,779	5,690	3,585	1,629
2010	4,155	8,448	6,546	2,369
2020	4,268	8,725	6,788	2,416

As of 2000, the surrounding four municipalities had a combined population of 13,683 persons. Over the next 20 years, this could reach about 22,000 persons. At 1.75 persons per each new household, this translate to about 4,800 new houses. Obviously, persons living in at least three neighboring townships frequently drive through Buffalo Township, and at least some new regional residents will do so in the future.

EXISTING CONDITIONS ANALYSIS: ENVIRONMENTAL CONDITIONS AND LAND USE

With an understanding of demographic potential for growth, the natural setting must be examined. Like any community, Buffalo Township has areas which are more conducive to future growth and development and areas which are less so. In addition, local preference in a typical community also states that while certain areas could be developed, perhaps they should not be developed (or if developed, essential features, such as historic or natural significance, should not be obliterated). The purpose of existing conditions analysis is to identify all such areas. In general, they can be summarized as:

Factors which will increase likelihood of future growth and development:

1. Presence of public water
2. Presence of public sewer
3. Permitted use zoning designation
4. Transportation access
5. Lack of environmental limitations (slope, wetlands, floodplain)

Factors which will decrease likelihood of future growth and development:

1. Ground sloping more than 25 percent is generally considered undevelopable in all but the most urban settings.
2. Ground sloping 16 to 25 percent can be technically developable but never a primary choice.
3. Floodplains can be technically developed but disfavored by lending institutions.
4. Wetlands are not developable without complex regulatory mitigation.
5. Zoning actions beyond use by right (conditional use, text amendment, re-zoning, special exception, or dimensional variance) are not favored unless the site is otherwise very preferable.
6. Development of farmland in which development rights have been sold, and land owned by public bodies or non-profits (such as conservation organizations) ranges from legally impossible to highly unlikely.

Factors in which a local community typically believes development should not occur:

1. Areas of exceptional natural beauty or rural character (this typically includes environmental limitations but can also include stands of mature timber, active farmland, and any water features).
2. Agricultural Security Areas (ASAs) – These covenants are a fair statement of intent that the owner wishes to continue farming.
3. Vacant lands near currently developed single-family dwelling areas. Residents typically do not want to lose nearby greenspace.

With a list of these factors in mind, it becomes possible to examine their geographic impact upon Buffalo Township. The Environmental Conditions Map depicts those areas where there are impediments to growth. Slope areas depicted on the map are greater than 25 percent and are not safely buildable. Most of these areas occur in the Buffalo Creek Valley. There are also a few slope areas within the Route 356 corridor which are currently in forested and undeveloped. The secondary conservation areas on the map are areas of moderately steep slope, generally significant tree cover, and likelihood of small wetland areas. There may be technically buildable areas within them, but they probably would not be the first choice of either developers or the community. Lands owned by the Audubon Society are maintained as a nature preserve. It would be highly unlikely the Society would ever sell this property for development. The Agricultural Security Areas, as mentioned before, are a statement of preference by the owner. In addition, Agricultural Security Area designation is a necessary precursor to the purchase of conservation easements. This transaction, funded by both Butler County and the Commonwealth, pays farmers the difference between the value of their land as farmland and its value for development in exchange agreements to not develop the parcel. Under State law, this land may only be used for agriculture, forestry, recreation, or the erection of one farm dwelling in perpetuity. Several Agricultural Security Areas have sold development rights in Buffalo Township in such a manner, and it can be assumed others would if the County program funded it. All areas where conservation easements are held must be in an Agricultural Security Area as a precursor to payment. Finally, regulatory floodplains are included which, in the Township's case, frequently coincide with slope and secondary conservation areas.

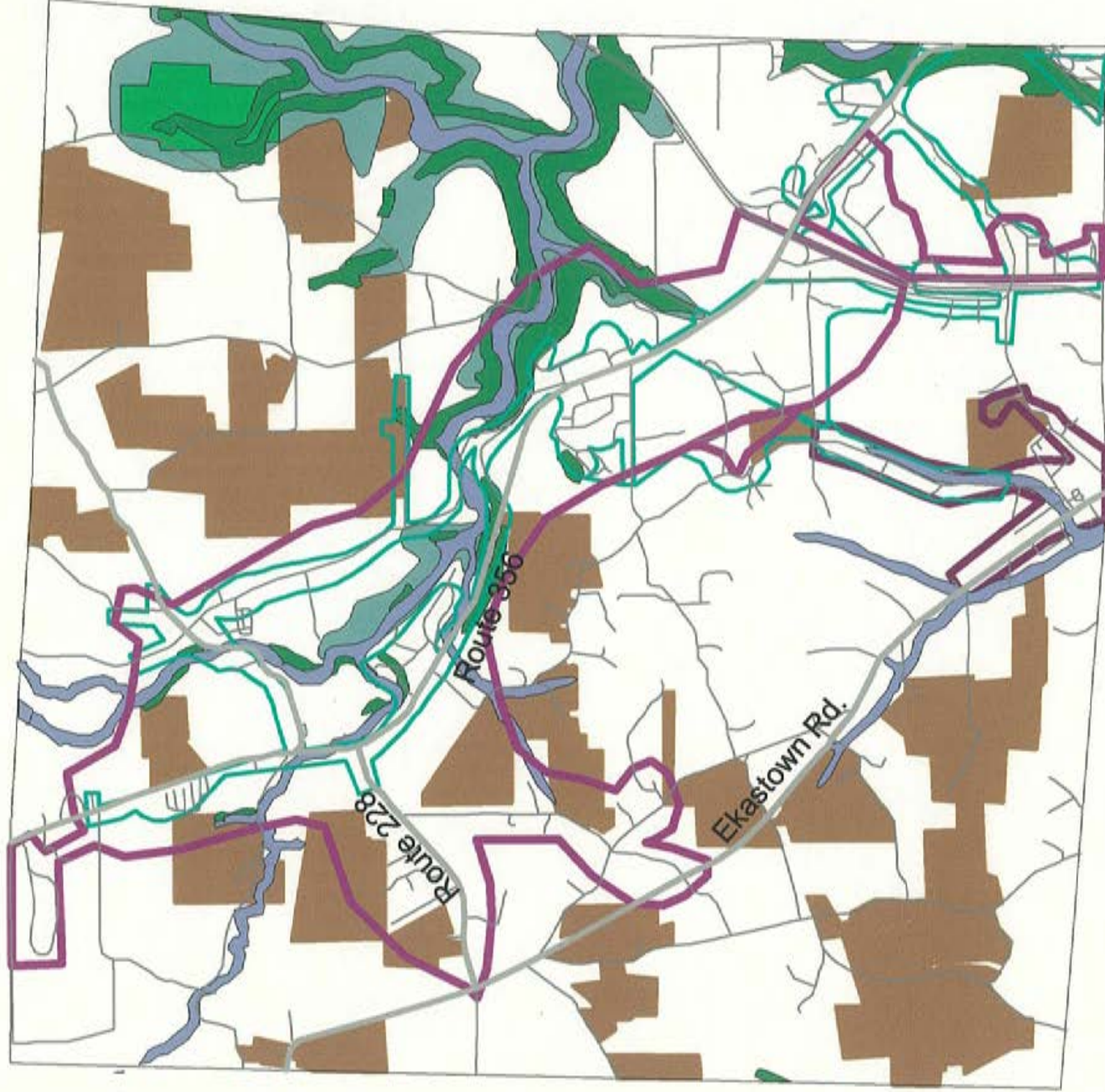
With these areas taken out of consideration for future development, factors which encourage development can be examined. Virtually the entire Route 356 corridor is served by both public water and sewage treatment. Non-service areas are limited to some slope areas and the extreme north of the Township. As typical in Butler County, sewerage has outpaced water extensions. Discussions with the Authority reveal no reasonable capacity problems and no major plans of expansion for either their system or the Allegheny County system which services the lower part of Ekastown Road.

In the situation of Buffalo Township, where utilities are present and the most severe environmental limitations are geographically limited, existing land use and

Buffalo Township Land Use and Transportation Initiative

Environmental Conditions

- Study corridors
- Roads
- Township Authority Sewer
- Water Service
- Floodplain
- Major Sewer
- Steep Slope
- Audubon
- Secondary conservation
- Agricultural Security Areas



Graney, Grossman, Ray, Colosimo and Associates, Inc.
Project Planners
Herbert, Rowland, and Grubic, Inc.
Transportation Engineers

The preparation of this report was financed
in part through a grant from the:
-United States Department of Transportation
-Pennsylvania Department of Transportation
-Southwestern Pennsylvania Commission

zoning is crucial to understanding where development may occur. The existing land use information was taken from a windshield survey which drove every public road in the Township. The results are depicted on the General Existing Land Use Map. Categories are defined as follows:

Single-Family Residential - Detached dwellings occupied by one household.

Special Residential - Mobile home parks, apartments, townhouses, or other dwelling types.

Public or Semi-Public - Land owned by the municipality, school district, authorities, fire companies, churches, or other not-for-profit entities.

Business - Includes retail businesses, service businesses, industries, and any for-profit venture land use.

Low Intensity - Land used for private forests, agriculture (outside ASAs), and housing at very low densities (such as 1 unit per 4 acres) or a few scattered homes surrounded by farm and forest.

The Township has developed response to the aforementioned environmental limitations and presence of public sewer service. The 356 corridor has been the principal focal point of development. Where frontage has not been available, development has spread down intersecting roads or created new streets for maximum land utilization. The Ekastown Road is less uniformly developed, seeing only intensive land utilization at the extreme southern portion of the Township and the junction with Route 228.

Thematic land use analysis can also reveal much about patterns in development. Residential development has largely come in two phases. Initially, development was a pattern of "roadside civilization" where lots were cut from frontage and few new roads were constructed. This left narrow bands of house lots with existing road frontage and rear yards facing farms or forests. More recently, the pattern of full tract utilization and new public roads has emerged. Typical of growing suburban areas, almost all land resources have been devoted to single-family, detached dwellings. The majority of land devoted for other housing uses in land is mobile home parks. Less than 3 percent of residential land is used for apartments or townhouses. The oldest cluster of business uses in the Township may be the area near the 228/356 junction. Newer intensive clusters have emerged at the

228/Ekastown Road junction and along 356 both above and below 228. Otherwise, what is noticeable about business development is that it is not geographically significant or extremely intense. The two largest tracts of business use are used seasonally or periodically (race track and golf course). This confirms discussions with developers that, in the case of Buffalo Township, future residential development will attract the entrance of more businesses, at a later time.

Comparisons of the existing land use and existing zoning are also interesting. There are a few areas of relatively significant residential development which are not zoned as such. Fortunately, there has been a resistance of the misguided impulse to zone all highway frontage tracts for business purposes. Undeveloped or partially developed business zoned tracts have good depth and size. There appears to be about 600 acres of land zoned M-1, M-2, B-1, or B-2 used for low-intensity or residential purposes.

BUILD-OUT SCENARIOS

Once existing and historical conditions are fully understood, it becomes possible to construct a scenario to see what might happen in the future.

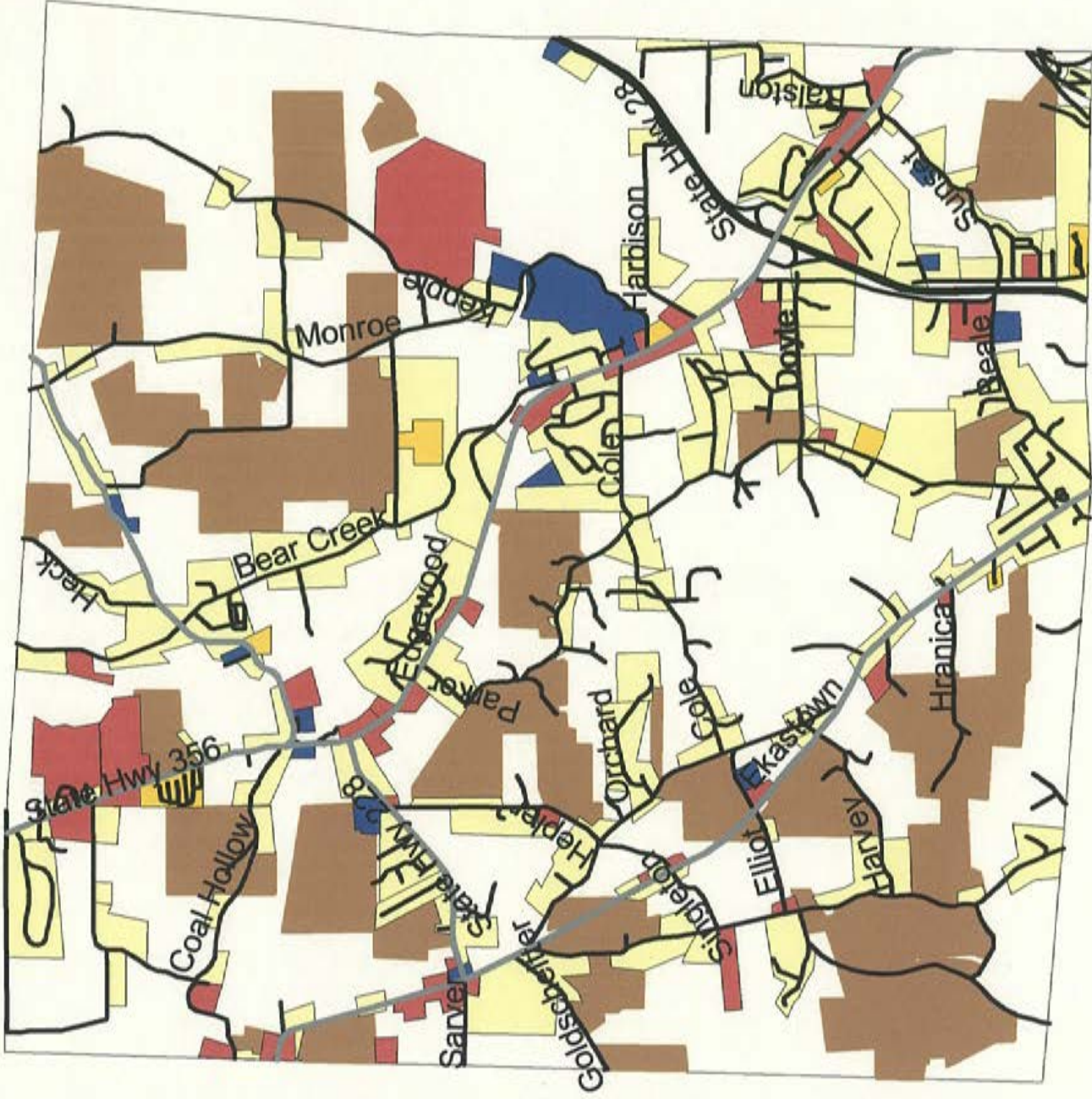
The Build-Out Scenarios Map is based upon a set of assumptions about future growth and development. These assumptions are:

- Projected growth in terms of households will occur within 10 to 15 years.
- No zoning designation will change unless there is no other option.
- Residential development will occur in the following preference:
 1. Vacant lots in existing, properly zoned vacant tracts
 2. Subdivisions of properly zoned vacant tracts
 3. Smaller clusters in agriculturally zoned areas
 4. Random re-zoning or community planned re-zoning

Buffalo Township Land Use and Transportation Initiative

Buffalo Township Existing Land Use

- Study corridors
- Roads
- Public or Semi-Public
- Business
- Special residential
- Singlefamily
- Ag security areas
- Low Intensity



The preparation of this report was financed in part through a grant from the:

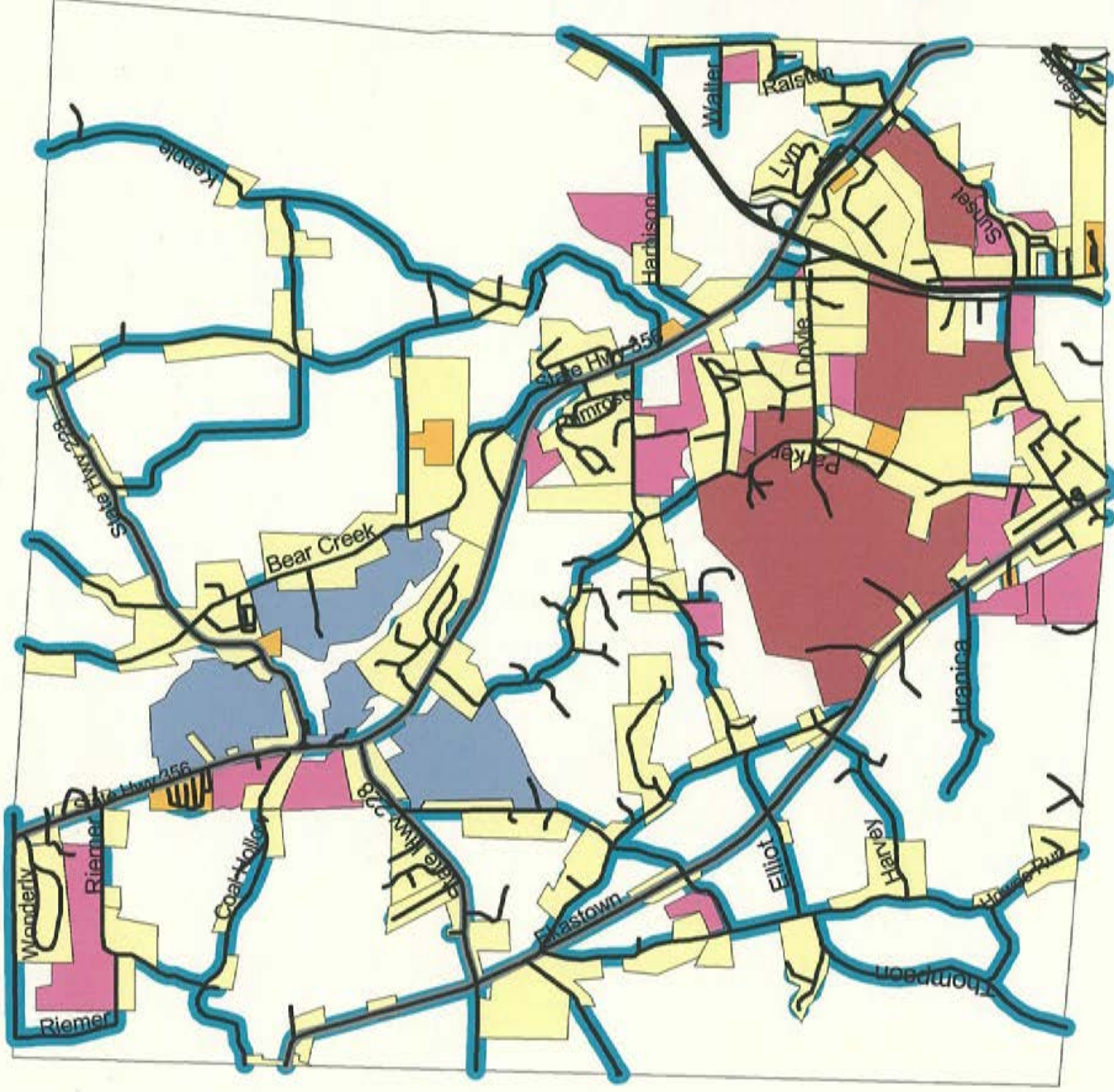
- United States Department of Transportation
- Pennsylvania Department of Transportation
- Southwestern Pennsylvania Commission

Graney, Grossman, Ray, Colosimo and Associates, Inc.
Project Planners
Herbert, Rowland, and Grubic, Inc.
Transportation Engineers

Buffalo Township Land Use and Transportation Initiative

Build-Out Scenarios

- Streets and Roads
- Alternative Long Term Development
- Study Corridors
- Long Term New Development
- Initial New Development
- Current Special Residential
- Current Residential
- Peripheral New Development
- Township Line



The preparation of this report was financed in part through a grant from the:

- United States Department of Transportation
- Pennsylvania Department of Transportation
- Southwestern Pennsylvania Commission

Graney, Grossman, Ray, Colosimo and Associates, Inc.
Project Planners
Herbert, Rowland, and Grubic, Inc.
Transportation Engineers

- Commercial or industrial development will be opportunistic rather than speculative, and will occur in vacant properly zoned areas, mostly after residential build out.

The current vacant lots will be able to absorb about 150 of the anticipated future dwelling units. Perhaps another 650 will be absorbed by vacant, properly zoned tracts. This is depicted on the map as "Initial New Development". Development will then begin to follow two patterns of least resistance. Five lot subdivisions will begin to appear on roadsides in agricultural areas. This will repeat the roadside civilization pattern and is depicted on the map as "Peripheral New Development". Finally, random re-zoning requests will occur where there is desire to sell. Ideally, this should not occur. (It is incidentally also impossible to depict on a map.) A preferred alternative would be concentrated "Long-Term Development" as shown on the map in the area of the PA 228/356 junction. A second possibility would be development in the areas depicted as the "Alternative Development Area" – west of Parker Road, east of Parker Road and south of Doyle, and southeast of the 356/28 interchange. However, roughly 50 percent regulatory capacity increases (rezoning to R-1 or R-2) would be required to accommodate anticipated growth.

TRANSPORTATION ANALYSIS

Introduction: In coordination with the existing land use character analysis of Buffalo Township, a transportation analysis was also completed by Herbert, Rowland and Grubic, Inc (HRG).

The transportation analysis is divided into the following parts:

Part 1 - Existing Conditions: The basis of the existing transportation analysis consisted of a field view of the existing transportation network. The field evaluation was supplemented by manual turning movement traffic data collection by John J. Clark & Associates, automatic traffic recorder (ATR) daily volumes collected by HRG, accident information provided by Buffalo Township, and transportation surveys completed by the steering committee. The existing transportation system was evaluated for signalization and turn lane warrants under existing conditions.

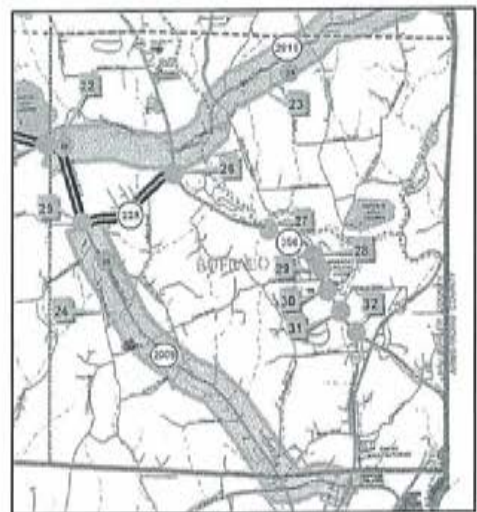
Part 2 - Future Conditions: Based on the projected growth patterns from the land use analysis, future traffic projections were distributed through the roadway network. Future operation of the corridor and selected intersections was analyzed.

PART 1 – EXISTING CONDITIONS

The study area focused on the Route 228 and Route 356 corridor through Buffalo Township. This corridor study is a continuation of the previous *Early Options Analysis for the Route 228 and Route 356 Corridor Study* prepared by the Southwestern Pennsylvania Commission (SPC).

A. Roadway Classification

Functional classification is used in this analysis to categorize the roadways in the Township according to their function. Primarily roadways serve two functions, mobility (the ability to go from one place to another) and access (the ability to enter adjacent property). The



roadway's functional classification is based on these two roadway functions. The classifications are further divided between Urban and Rural.

The following table reflects the roadway volumes and classifications for the roads included in this analysis. The roadway classifications are depicted on the Transportation Functional Class and Average Daily Traffic Map.

Roadway Volumes and Classification							
State Route No.	State Seg. No.	Street Name	Classification	Location	Count Year ¹	Avg Daily Traffic	Dir. Split ²
28	--	Route 28	Expressway	Rte 356 to N	2000	16,000	--
28	--	Route 28	Expressway	Rte 356 to S	2000	18,000	--
356	130-160	North Pike Road	Minor Arterial	Twp line to Rte 228	2002	10,460	50/50
	100-130	South Pike Road	Minor Arterial	Rte 288 to Younkens	2002	16,870	45/55
	50-100	South Pike Road	Minor Arterial	Younkens to Rte 28	2002	20,020	50/50
	10-50	Butler Road	Principal Arterial	Rte 28 to Twp line	2000	10,000	--
0228	400-410	Ekastown Road	Minor Arterial	Twp Line to Sarver	2002	7,570	50/50
	410-440	Sarver Road	Minor Arterial	Sarver to Rte 356	2002	5,780	50/50
2009	30-80	Ekastown Road	Rural Major Collector	Sarver to Hranica	2002	5,280	55/45
	10-30	Ekastown Road	Rural Major Collector	Hranica to Twp line	2002	6,510	40/60
2018	--	Sarver Road	Rural Major Collector	At Rte 356	2002	2,200	50/50
2017	--	Silverville	Rural Major Collector	At Rte 356	2000	2,800	--
2015	--	Monroe Road	Local Road	At Rte 356	2002	1,240	50/50
--	--	Cole Road	Local	At Rte 356	2002	1,310	45/55
--	--	Coal Hollow Road	Local	At Rte 356	2002	300	50/50

¹Counts in 2002 were completed by HRG for this study. Counts in 2000 are PENNDOT most current data.

²Directional Split is shown either E/W or S/N

Roadways will be classified into the following four categories:

Arterials provide for high mobility and limited access. Arterials generally convey between 10,000 and 25,000 average daily traffic (ADT). These roads connect

urban centers and convey traffic for distances over one mile. Arterials often connect urban centers with outlying communities and employment. The roadway design is usually four to five 12-foot lanes with 8-10-foot shoulders and medians and design speeds of 40-60 mph. PennDOT further classifies Arterials as Principal and Minor.

Major Collectors are intended to provide for a greater degree of mobility than for land access. Collectors generally convey traffic for medium travel distances (generally greater than one mile) and convey between 1500 and 10,000 ADT. Collectors serve motorists between local streets and arterial roads. The roadway design is two 12-foot lanes with 8-10-foot shoulders and design speeds of 35 mph.

Minor Collectors provide for equal amounts of mobility and land access. These roadways serve as major circulation roads. Minor collectors are two 11-12-foot lanes with 4-10-foot shoulders and design speeds of 30 mph.

Local Roads are intended to provide immediate access to adjoining land uses. Local roads are intended to only provide for transportation within a particular neighborhood, or to one of the other road types described. Local roads are generally 20-22 feet wide with 2-8 foot shoulders or curbing and design speeds of 25 mph.

The following summarizes the classification of the existing roadways and intersections within the Study Area. Any existing deficiencies noted are also included.



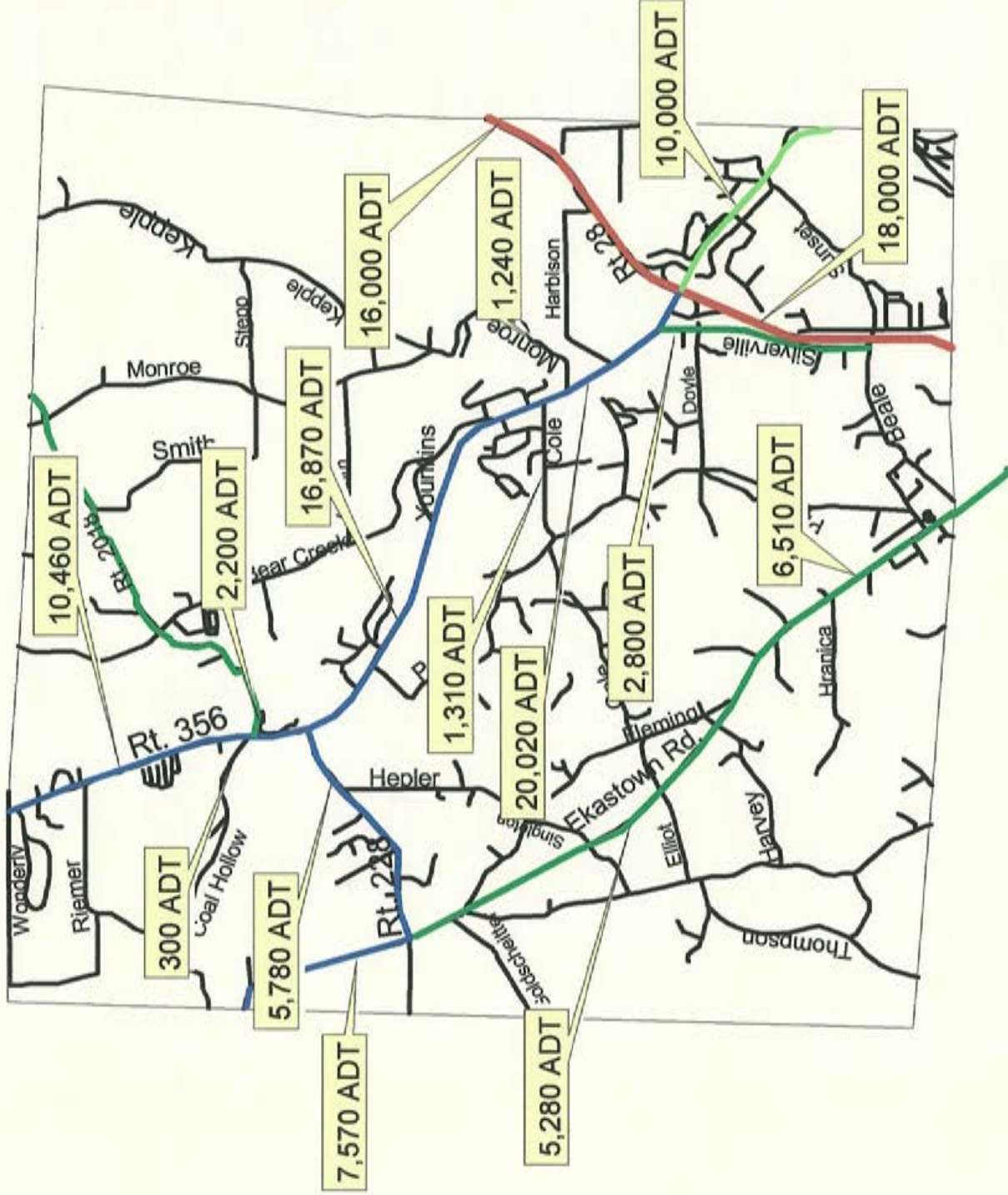
Route 356 is classified as a Minor Arterial also known as North Pike Road (north of Route 228) and South Pike Road (south of Route 228). Regionally, Route 356 provides access from the City of Butler through southwestern Summit Township and Jefferson Township to Buffalo Township. Route 356 has a full interchange with Route 28 and continues into Freeport. Within Buffalo Township,

Route 356 provides access to Lernerville Speedway, Freeport Area Senior High School, and commercial development. Daily traffic volumes increase from 10,460 vehicles per day (vpd) entering from Winfield Township to 16,870 vpd after the

Buffalo Township Land Use and Transportation Initiative

Functional Class and Average Daily Traffic (ADT)

- Rural major collector
- Minor arterial
- Principal arterial
- Expressway
- Roads
- Township Boundary



The preparation of this report was financed in part through a grant from the:

- United States Department of Transportation
- Pennsylvania Department of Transportation
- Southwestern Pennsylvania Commission

Graney, Grossman, Ray, Colosimo and Associates, Inc.
Project Planners
Herbert, Rowland, and Grubic, Inc.
Transportation Engineers

merge of Route 228 and 20,020 vpd near Route 28.



The volume of traffic is high for the roadway classification, width and number of lanes. For this volume of traffic, the roadway is approaching classification as a Principal Arterial, especially from Route 228 to Route 28. As an arterial, the roadway design should have four 12-foot lanes and 8-10 foot shoulders.

The roadway is typified by rolling vertical geometry and numerous side streets and curb cuts. Due to the high traffic volumes, minimal gaps are provided to access to and from the side streets and businesses. Turn lanes are not typically provided.

Route 228 is also classified as a Minor Arterial and is known as Ekastown Road (north of Ekastown) and Sarver Road (from Ekastown to Route 356). Regionally,



Route 228 runs east-west from Cranberry Township in the west to Buffalo Township in the east. The roadway provides access from Interstate 79 and the Pennsylvania Turnpike in the west, through the Southern Butler County municipalities of Cranberry Township, Seven Fields Borough, and Adams, Middlesex, Clinton and Buffalo Townships. Route 228 crosses State Route 8 in Middlesex Township with an

offset intersection. Within Buffalo Township, Route 228 terminates at Route 356. Daily traffic volume is 7,570 vpd north of Ekastown and 5,780 vpd from Ekastown to Route 228.

The volume of traffic is high for the width and number of lanes. For this volume of traffic, the roadway is appropriately classified as a Minor Arterial, and the roadway design should have four 12-foot lanes and 8-10 foot shoulders.



The intersection of Sarver Road and Ekastown Road on Route 228 carries a predominance of traffic making a 90-degree movement to continue along Route 228. The intersection is constricted by the Union Cemetery on the northeast quadrant and Emory Chapel United Methodist Church on the southeast quadrant. A flashing red beacon has been installed at the four-way stop controlled intersection. Turn lanes are not provided.



The intersection of Route 228 and Route 356 also carries a significant amount of traffic making a 90-degree turn. The intersection is constricted by an embankment on the northern and southern sides of Route 228, which enters the intersection at a downgrade. The Route 228 approach is stop controlled. No turn lanes are present.

Ekastown Road (S.R. 2009) is classified as an Urban Major Collector and provides access from Route 228 to S.R. 1028 (also known as Route 908) and the Route 28 interchange in Fawn Township. Daily traffic volumes increase from 5,280 vpd at Route 228 to 6,510 vpd near Fawn Township.



The volume of traffic is appropriate for the roadway classification, width and number of lanes. For this volume of traffic, the roadway is adequately classified as a Major Collector with two 12-foot lanes and 8-10-foot shoulders.



The roadway is typified by gently rolling vertical geometry with residential access. The adjacent development is set back from the roadway. Gaps are provided to access to and from the side streets and residences.

Sarver Road (S.R. 2018) is also classified as an Urban Major Collector and provides access

from Route 356 northeast to Winfield Township. Daily traffic volumes are 2,200 vpd at Route 356.

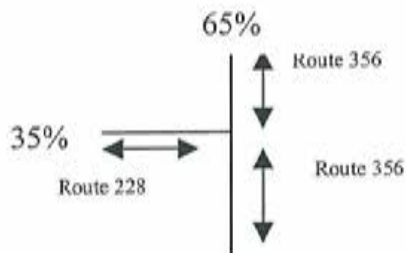
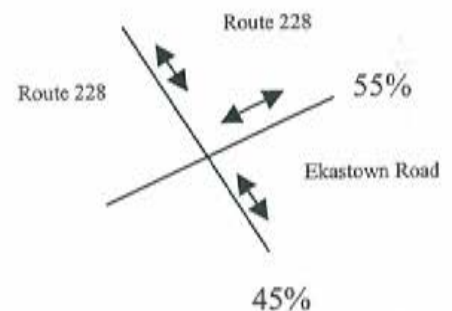
The volume of traffic is appropriate for the roadway classification, width and number of lanes. For this volume of traffic, the roadway is adequately classified as a Major Collector with two 12-foot lanes. The shoulders are minimal and less than the desired 8-10-foot shoulders for this classification.

The roadway is typified by significant rolling vertical geometry with skewed side street and residential access. Gaps are available to access to and from the side streets and residences, but sight lines on Sarver Road impede access in some locations.

B. Traffic Flow

Traffic patterns through the study corridors are highlighted for the following intersections:

Route 228 and Route 2009 (Ekastown Road)/ Sarver Road Intersection – The traffic flow from Route 228 is divided into 55% to Route 228 (Sarver Road) and 45% to Ekastown Road.



Route 228 and Route 356 Intersection - The traffic flow on Route 356 (South Pike Road), 16,870 ADT, is comprised on 35% from Route 228 and 65% from Route 356 (North Pike Road).

C. Accident Data

Buffalo Township provided four-year (1997-2001) accident history records for Buffalo Township including all reportable and non-reportable accidents. A total of 327 accidents were included on the records (305 reportable and 21 non-reportable). The type of the accidents (rear end, angle, etc) was not indicated.

Accidents in the Route 228, Route 356 and Ekastown Road corridors are included in the following table. Intersections with a significant number of incidents (15 or







more) are highlighted in bold. The accident history is also graphically represented on the Accident in Study Corridors Map.

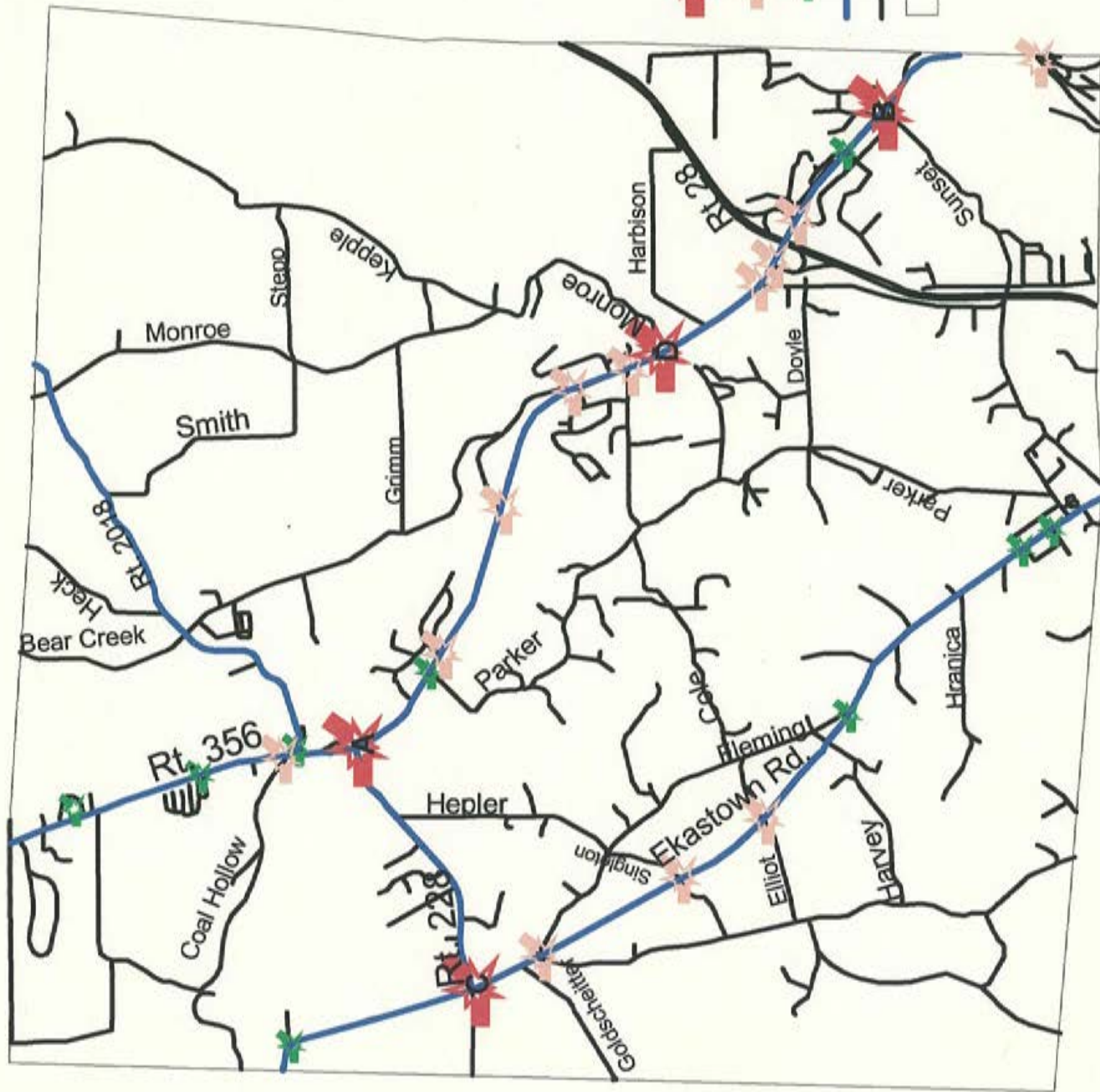
Accident Data Summary					
Principal Road		Intersecting Road		No. of Incidents	Rank*
Route 356	Route 356	Route 228	Sarver Road West	37	A
Route 356	Butler Road	T-616	Ralston Rd	18	B
Route 356	South Pike Road	Route 2015	Monroe Road	17	D
Route 356	Route 356	T-349	Younkins Road	13	
Route 356	South Pike Road	Route 2017	Silversville Road	11	
Route 356	South Pike Road	T-669	Cole Road	9	
Route 356	South Pike Road	T-842	Bear Creek Road	8	
Route 356	Butler Road	Route 28	Route 28 Ramp North	7	
Route 356	Route 356	T-578	Coal Hollow Road	6	
Route 356	Route 356	Route 28	Route 28 South Ramp	6	
Route 356	Ramp to Freeport	Route 2019	Freeport Road	5	
Route 356	South Pike Road	T-343	Edgewood Dr	5	
Route 356	Route 356	Route 2018	Sarver Road	3	
Route 356	South Pike Road	T-614	Parker Road	3	
Route 356	North Pike Road	T-852	Wonderly Dr	2	
Route 356	Route 356		First Avenue	2	
Route 356	North Pike Road		Park Dr.	2	
Route 356			Buffalo Trails Dr	2	
Route 356	North Pike Road	T-612	Riemer Road	2	
Route 356	North Pike Road		Franklin Dr	2	
Route 356	South Pike Road		Buffalo Plaza	2	
Route 356	South Pike Road	--	National City Bank	1	
Route 356	Route 356	Route 1028		1	
Route 356	Route 356	T-601	Rambler Dr	1	
Route 228	Ekastown Road	Route 2009	Ekastown Rd /Sarver	18	C
Route 228	Ekastown Road	T-612	Coal Hollow Road	8	
Route 228	Sarver Road	T-740	Sunny lane	2	
Route 228	Sarver Road		Crescent Hill Drive	2	
Route 228	Ekastown Road		Glenn Dr	1	
Route 228	Sarver Road	T-578	Hepler Road	1	
Route 2009	Ekastown Road	T-669	Elliot Road	7	
Route 2009	Ekastown Road	T-672	Fleming Road	7	
Route 2009	Ekastown Road	T-578	Singleton Road	5	
Route 2009	Ekastown Road	T-614	Parker Road	4	
Route 2009	Ekastown Road		Harvey Road	2	
Route 2009	Ekastown Road		Goldscheitter Road	1	
Route 2009	Ekastown Road	T-843	Howes Run Road	1	

*See Accident History Map

Buffalo Township Land Use and Transportation Initiative

Accident History in Study Corridors 1997-2001

-  High accidents (more than 15)
-  Moderate accidents (5-15)
-  Low accidents (less than 5)
-  Study corridors
-  Roads
-  Township Boundary



The preparation of this report was financed in part through a grant from the:

- United States Department of Transportation
- Pennsylvania Department of Transportation
- Southwestern Pennsylvania Commission

Graney, Grossman, Ray, Colosimo and Associates, inc.
Project Planners
Herbert, Rowland, and Grubic, inc.
Transportation Engineers

D. Intersection Analysis

Key study intersections along the corridors were selected for further evaluation. These intersections were chosen based on the previous *Early Options Analysis for the Route 228 and Route 356 Corridor Study* prepared by SPC, the steering committee survey results, and field observation. Manual turning movement counts were performed at these intersections and further analysis was completed. The turning movement counts were performed from 7:00 a.m. to 9:00 a.m. (a.m. peak hours) and 4:00 p.m. to 6:00 p.m. (p.m. peak hours) at the study intersections. Existing a.m. and p.m. peak hour traffic volumes together with intersection traffic count summaries can be found in the Technical Appendices which are published separately and available from the Township. Study intersections are depicted on the attached map with traffic count locations.

Capacity analysis, as defined by the Transportation Research Board Highway Capacity Manual 2000, is a set of procedures used to estimate the traffic carrying ability of a facility over a range of defined operational conditions. The capacity analysis uses Levels of Service (LOS) to describe the operational conditions. Levels of service are assigned letter designations "A" through "F", with "A" being the most desirable operating conditions. A Level of Service "F" is considered to be at or near capacity, while a Level of Service "D" is generally considered acceptable according to the Highway Capacity Manual. A description of the various levels of service is provided in the Highway Capacity Manual.

The capacity analyses were conducted using the Federal Highway Administration's Highway Capacity Software. Capacity analyses were performed for the existing 2002 conditions. Detailed existing conditions capacity analyses worksheets can be found in the Appendices. Results are summarized in the following table. Any unacceptable levels of service (LOS "E" or "F") are highlighted in the following table.

LEVEL OF SERVICE SUMMARY				
Intersection		Movement	2002 Existing Condition*	
			AM	PM
(1)	Route 356 (N/S) and Younkens Drive (E/W)	SB Left/Thru	A	A
		WB Left/Right	C	D
(2)	Route 356 (N/S) and Route 28 Northbound On-Off Ramp (E/W)	SB Left	A	A
		WB Left/Right	C	F (82.7)
(3)	Route 356 (N/S) and Route 28 Southbound On-Off Ramp (E/W)	SB Left	A	B
		EB Left/Right	C	C
(4)	Route 356 (N/S) and Silverville Road (E/W)	NB Left	A	A
		EB Left/Right	C	F (64.3)
(5)	Route 356 (N/S) and Sarver Road (Route 228) (E/W)	NB Left/Thru	A	A
		EB Left/Right	C	F (131.2)
(6)	Route 356 (N/S) and Cole Road (E/W) Signalized	EB	C	D
		WB	B	C
		NB	B	A
		SB	A	A
		Overall	B	A
(7)	Route 356 (N/S) and Monroe Road (E/W)	SB Left/Thru	A	A
		EB Left/Right	E	D
(8)	Ekastown Road (N/S) and Route 228 (E/W)/Sarver Road (All-way Stop - Flashing Beacon)	EB	A	A
		WB	A	B
		NB	A	B
		SB	B	B
		Overall	A	B
(9)	Route 356 (N/S) and Sarver Road (S.R. 2018) (E/W)	SB Left/Thru	A	A
		WB Left	C	D
		WB Right	B	B
(10)	Ekastown Road (N/S) and Route 908 (E/W) (All-way Stop - Flashing Beacon)	EB	A	B
		WB	B	B
		NB	A	B
		SB	B	B
		Overall	B	B
(11)	Route 356 (E/W) and Harbison Road (N/S) (Cinema 356 TIS – May 98)	EB Left/Thru		B
		SB Left/Right		C
(12)	Route 356 (E/W) and Bear Creek Road (N/S) (Buffalo Plaza TIS – May 97)	SB Left		D
		EB Left		A

* Level of Service A to F – Unacceptable LOS highlighted (with delay in seconds)

E. Signal Warrant Analysis

An evaluation of the traffic signal warrants was undertaken. In accordance with PennDOT Publication 201, *Engineering and Traffic Studies*, “a traffic control signal may be justified at an intersection, driveway or midblock pedestrian crossing, if one or more of the traffic signal warrants are satisfied”. For our evaluation, Signal Warrant XI – Peak Hour Volumes was evaluated for all unsignalized study intersections. The warrant is met when traffic conditions are such that the minor street traffic suffers undue delay entering or crossing the major street. The peak hour warrant evaluates the total volume on the major street and corresponding highest volume approach on the minor street. In general, 100 vehicles per hour is the lower threshold volume for a minor street approach with two or more lanes and 75 vehicles per hour is the lower threshold volume for a minor street approach with one lane.

The detailed traffic signal warrant analysis is provided in the aforementioned Technical Appendices. A summary of the Peak Hour Traffic Signal Warrant analysis for all currently stop controlled study intersections is included in the following table. Any intersections that warrant traffic signals under existing traffic conditions are highlighted in the table.

PEAK HOUR TRAFFIC SIGNAL WARRANTS		
Intersection	2002 Existing Condition	
	AM	PM
Route 356 and Younkens Drive	NO	NO
Route 356 and Route 28 Northbound On-Off Ramp	NO	YES
Route 356 and Route 28 Southbound On-Off Ramp	NO	NO
Route 356 and Silverville Road	NO	NO
Route 356 and Sarver Road (Route 228)	NO	YES
Route 356 and Monroe Road	NO	NO
Ekastown Road and Sarver Road	NO	NO
Route 356 and Sarver Road (Route 2018)	NO	NO
Ekastown Road and Route 908	NO	NO
Route 356 and Harbison Road	NO	NO

F. Left Turn Phasing Analysis

In accordance with PennDOT Publication 149, *Traffic Signal Design Handbook*, the proposed signalized intersections were evaluated to determine the type of signal phasing that would be recommended for left turn movements. Criteria such as left turning volume, opposing traffic volumes, delay experienced by left turning vehicles, safety, intersection geometry, and signal operation are all considered. Several different left turn signal phases are available:

- **Permissive Left Turn Phase** (with or without a separate turn lane) – The left turns are made during the green phase for the through movement of that approach during gaps of opposing traffic. No left turn arrows are provided.
- **Protected/Permissive Left Turn Phase** (with or without a separate turn lane) – The left turn traffic has a protected left turn arrow, but is allowed to proceed during the green phase for the through movement for that approach during gaps of opposing traffic.
- **Protected/Prohibitive Left Turn Phase** (must have a separate turn lane) – The left turn traffic is given a separate phase and turn arrow. The left turns are protected from any conflicts with opposing vehicles. Vehicles are prohibited from proceeding with green on the approach through phase.

The study intersections that are currently signalized or that warrant signalization were evaluated to determine the appropriate left turn phasing following PennDOT's criteria. The left-turn phasing analyses can be found in the separate Technical Appendices and the results are depicted in the following table and the Existing Conditions Improvements Map.

LEFT TURN SIGNAL PHASING				
Intersection	Signal	Movement	Phasing	Separate Turn Lane
Route 356 and Cole Road	Existing	NB Left	Permissive*	Not Warranted
		SB Left	Permissive	Not Warranted
Route 356 and Route 28 Northbound On-Off Ramp	Warranted	SB Left	Permissive	Existing
Route 356 and Sarver Road (Route 228)	Warranted	NB Left	Protected/Permissive	Warranted

*Route 356 and Cole Road Intersection - Based on existing 2002 conditions, volumes are approaching the requirements for protected/permitted left turn signal phasing for the northbound Route 356 movement.

G. Auxiliary Left Turn Lane

In accordance with Harmelink Methodology based on percent of left turn traffic and opposing and advancing volumes, the unsignalized intersections were evaluated to determine if auxiliary left turn lanes are warranted. Details of the left-turn lane analyses can be found in the separate Technical Appendices and are summarized in the following table.

AUXILIARY LEFT TURN LANE WARRANT SUMMARY		
Intersection	2002 Existing Condition Warranted (Length)	
	AM	PM
Route 356 and Younkens Drive (SB)	NO	YES (75')
Route 356 and Route 28 NB On-Off Ramp (SB)	EXISTING	
Route 356 and Route 28 SB On-Off Ramp (NB)	EXISTING	
Route 356 and Silverville Road (NB)	EXISTING	
Route 356 and Sarver Road (Route 228) (NB)	YES (75')	YES (125')
Route 356 and Monroe Road (SB)	YES (75')	YES (100')
Route 356 and Sarver Road (Route 2018) (SB)	NO	YES (75')

PART 2 – FUTURE CONDITIONS

A. Programmed Improvements

A ten-year horizon for future traffic conditions was selected for this study. As such, the following projects are scheduled in the next ten years (2002-2012) and were included in the base 2012 conditions.

Cinema 356 Project (Private Developer Improvement)

The following are being completed as part of a current PennDOT highway occupancy permit:

- **Route 356 and Monroe Road** – Signalization, left turn lanes along Route 356 and realignment of Monroe Road with development driveway
- **Route 356 and Cole Road** – Left turn lanes in both directions of travel on Route 356 and related signal modification
- **Route 356 – Cole Road to Monroe Road** – Three lane roadway cross section providing a center, optional left turn lane in areas where dedicated turn lanes are not needed.

PennDOT Safety and Mobility Initiative (SAMI) Project

We have reviewed the Draft 2003-2006 TIP and currently the following SAMI project is included:

- **Route 356 and Sarver Road (S.R. 2018) and Coal Hollow Road (Buffalo Elementary School Intersection)** – Realignment of Sarver Road with Coal Hollow Road. Final design complete. Signalization to be determined. Turn lanes on Route 356 are included, as well as left turn lane on Route 2018 included. Right of way acquisition in Fall 2002. Scheduled on the Draft 2003-2006 TIP for construction in 2005.



B. Traffic Projections

As a result of the Land Use Analysis, the project team used current trends in development activity to arrive at future anticipated housing development in Buffalo Township. These projections formed the basis for determining traffic growth throughout the Township.

Traffic forecasting within the Study Area was accomplished through the application of a travel demand model. In this model, the simulation of trips is developed through a series of steps in which the projected development is translated into actual traffic and vehicle movements throughout the region. The results of the travel demand model are summarized in tabular form in the Appendices.

- The projected development in the Township was broken into 28 Travel Analysis Zones (TAZ) as included in separate Technical Appendices.
- The number of projected new housing development was determined per TAZ from the Land Use Initiative assumptions developed during the course of this project. This involves the development of approximately 1,700 new homes within the next 10-to-15-year period.
- The number of projected peak hour vehicular trips per zone was determined using the Institute of Transportation Engineers Manual (ITE), Sixth Edition rates indicated in the following table.

TRIP GENERATION – SINGLE FAMILY DWELLING			
Peak Hour	Rate Trips/House	Enter	Exit
AM Peak Hour	0.75	25%	75%
PM Peak Hour	1.01	64%	36%

- The projected trips per zone were distributed using the trip distribution percentages in the following table. These percentages were based on existing peak hour travel patterns for the seven major corridors into and out of the Study Area. A graphical representation is included in the Technical Appendices, available at the Buffalo Township office.

TRIP DISTRIBUTION			
Corridor	Direction	Trip Distribution	
		AM Peak Hour	PM Peak Hour
Route 356	N	12%	20%
S.R. 228	NW	18%	15%
Ekastown Road	S	8%	15%
Sarver Road	N	2%	3%
S.R. 28	N	7%	5%
S.R. 28	S	35%	25%
Route 356	SE	18%	17%

- Projected future trips outside Buffalo Township were also considered in the future travel demand model. The travel demand was based on the projected additional population in the next ten years for the surrounding communities of Saxonburg Borough, Winfield, Clinton, and Jefferson Townships. The

distribution of these trips was based on the 1990 Census data distribution of work destinations.

ANTICIPATED TRIPS FROM OUTSIDE BUFFALO TOWNSHIP								
Municipality	Travel	Add. Homes	AM Peak Hour Trips			PM Peak Hour Trips		
			to 28S	to 28N	Total	from 28S	from 28N	Total
Winfield Twp	Via 356	498	235	45	280	51	271	322
Clinton Twp	Via Ekastown	377	178	34	212	39	205	244
Saxonburg	Via Ekastown	203	96	18	114	21	110	131
Jefferson Twp	Ekastown & 356	482	230	42	272	50	262	312

- In addition, the proposed Victory Business Park in Clinton Township was also included in the analysis. The 350-acre business park was assumed to be 75 percent complete in 10 years. The trip generation was projected using ITE Land Use Code 130 – Industrial Park. Of that projection, 50 percent of the trips were projected to Route 28 through Buffalo Township as indicated in the following table. All Traffic was projected to Ekastown Road.

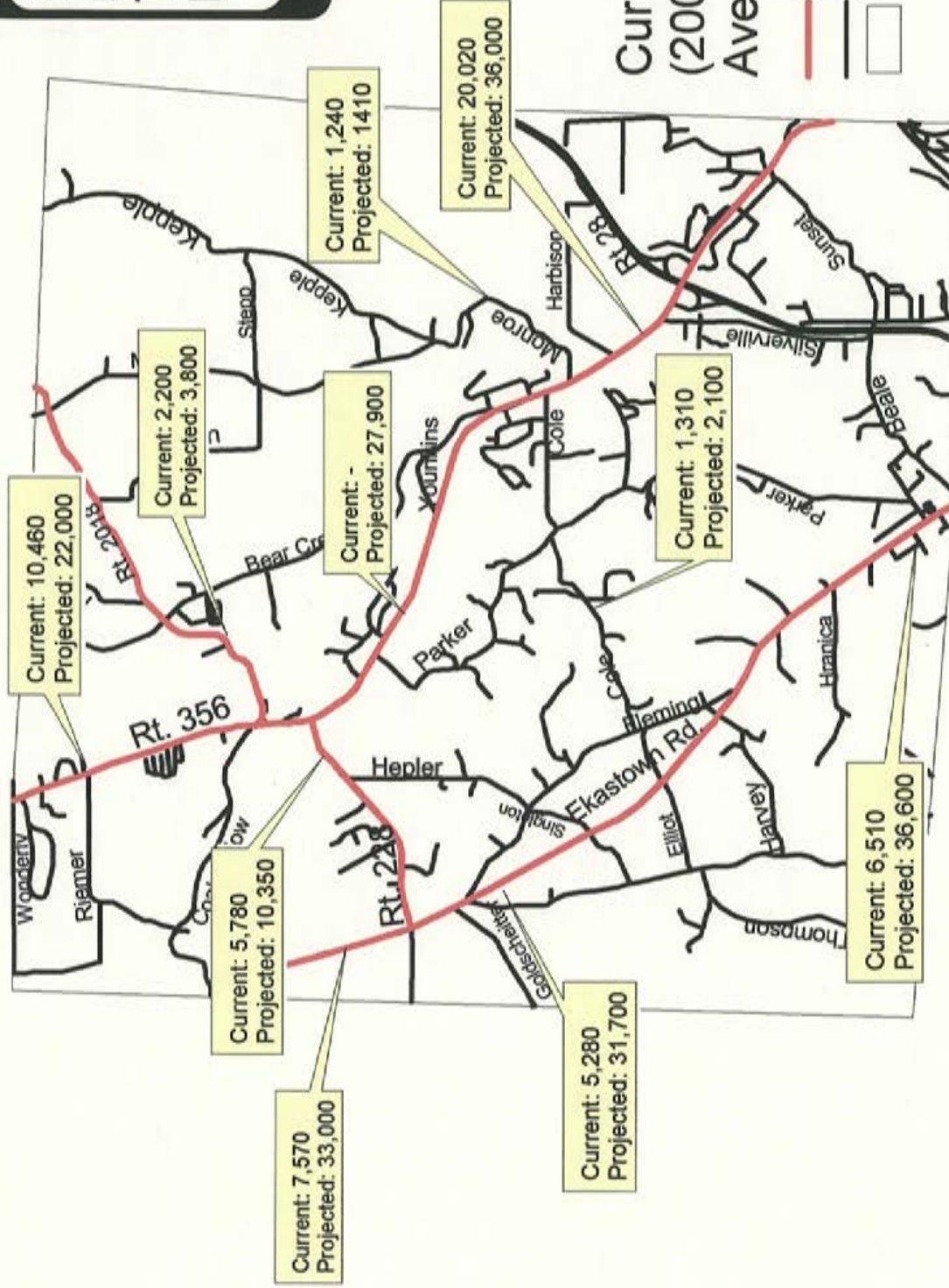
ANTICIPATED TRIPS FROM VICTORY BUSINESS PARK							
Condition	Weekday	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
Total Development	17,375	1,939	397	2,336	437	1,642	2,079
75% Dev in 2012	13,031	1,454	298	1,752	328	1,232	1,559
50% to Route 28	6,516	727	149	876	164	616	780

The projected AM peak hour and PM peak hour trips distributed through the study intersections for 2012 are shown in drawings 7 and 8, included in the Separate Technical Appendices. The projected ADT in 2012 is depicted on the Current and Projected Average Daily Traffic Map and the following table.

Buffalo Township Land Use and Transportation Initiative

Current and Projected (2000-2012) Average Daily Traffic

- Study Corridors
- Roads
- Township Boundary



Graney, Grossman, Ray, Colosimo and Associates, Inc.
Project Planners
Herbert, Rowland, and Grubic, Inc.
Transportation Engineers

The preparation of this report was financed in part through a grant from the:
-United States Department of Transportation
-Pennsylvania Department of Transportation
-Southwestern Pennsylvania Commission

PROJECTED (2012) ADT COUNTS				
Road	Location	Total Count	Directional Split	
Ekastown Road	At Allegheny County Line	36,600	18,400 N.B.	18,200 S.B.
Ekastown Road	At Route 228	31,200	16,050 N.B.	15,650 S.B.
Ekastown Road/ Route 228	At Clinton Township Line	37,000	16,900 W.B.	16,100 E.B.
Route 228	Between Ekastown Road and Route 356	10,350	5,400 W.B.	4,950 E.B.
Route 2018	All	3,800	2,180 W.B.	1,620 E.B.
Route 356	At Northern Township Line	22,000	10,750 W.B.	11,250 E.B.
Route 356	Near Younkens Drive Intersection	27,900	13,500 W.B.	14,400 E.B.
Route 356	At Route 28 Interchange	36,000	16,850 W.B.	19,150 E.B.
Monroe Road	All	1,410	650 N.B.	760 S.B.
Cole Road	All	2,100	1,270 E.B.	830 W.B.

C. Analysis of Future Conditions

Analysis of the future traffic conditions in the ten-year horizon was completed. A level of service analysis was completed to identify projected transportation network deficiencies that can be expected from anticipated growth in Buffalo Township as well as pass-through traffic from surrounding communities. The analysis was conducted for projected 2012 traffic conditions for the study intersections using turning movement projections developed by the traffic demand model. As with the existing analysis, the future conditions analysis included capacity analyses and signal warrant analyses. The results are summarized in the following tables.

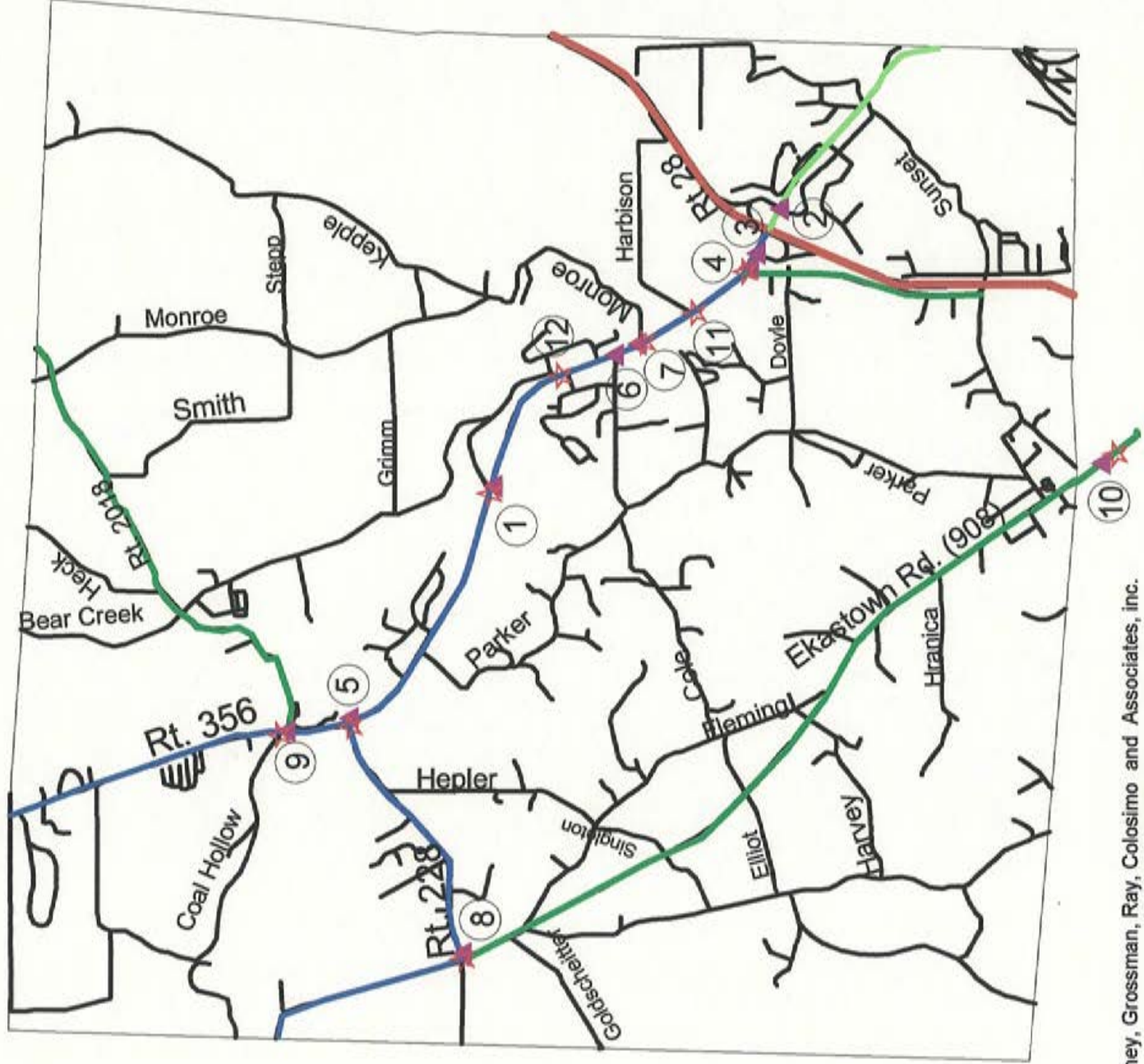
LEVEL OF SERVICE SUMMARY – FUTURE CONDITION				
Intersection		Movement	2012 Projection	
			AM	PM
(1)	Route 356 (N/S) and Younkins Drive (E/W)	SB Left/Thru	A	B
		WB Left/Right	C	F (136.1)
(2)	Route 356 (N/S) and Route 28 Northbound On-Off Ramp (E/W)	SB Left	A	A
		WB Left/Right	E	F (703.5)
(3)	Route 356 (N/S) and Route 28 Southbound On-Off Ramp (E/W)	SB Left	C	B
		EB Left/Right	F (283.0)	F (*)

LEVEL OF SERVICE SUMMARY – FUTURE CONDITION				
Intersection		Movement	2012 Projection	
			AM	PM
(4)	Route 356 (N/S) and Silverville Road (E/W)	NB Left	C	B
		EB Left/Right	F (*)	F (*)
(5)	Route 356 (N/S) and Sarver Road (Route 228) (E/W)	NB Left/Thru	C	B
		EB Left/Right	F (*)	F (*)
(6)	Route 356 (N/S) and Cole Road (E/W) Signalized	EB	D	F (84.7)
		WB	B	C
		NB Left	A	A
		NB Thru/Right	C	F (102.4)
		SB Left	A	A
		SB Thru/Right	F (170.9)	B
		Overall	F (99.1)	E
(7)	Route 356 (N/S) and Monroe Road (E/W)/ Cinema 356 Driveway Signalized	EB Left/Thru	D	F (328.9)
		EB Right	C	D
		WB	D	E
		NB Left	C	F (94.1)
		NB Thru/Right	A	F (109.7)
		SB Left	A	B
		SB Thru/Right	F (150.0)	D
(8)	Ekastown Road (N/S) and Route 228 (E/W)/Sarver Road (All-way Stop - Flashing Beacon)	Overall	F (96.5)	F (97.2)
		EB	B	B
		WB	C	E
		NB	F (731.7)	F (662.8)
		SB	F (486.9)	F (967.3)
		Overall	F (542.1)	F (713.4)
(9)	Route 356 (N/S) and Sarver Road (S.R. 2018) (E/W)	EB	E	F (98.2)
		WB Left	F (*)	F (*)
		WB Thru/Right	B	F (53.5)
		NB Left	B	A
		SB Left	A	B
(10)	Ekastown Road (N/S) and Route 908 (E/W) (All-way Stop - Flashing Beacon)	EB	B	C
		WB	F (666.3)	F (841.6)
		NB	B	C
		SB	F (621.9)	F (948.0)
		Overall	F (600.4)	F (761.6)
(11)	Route 356 (N/S) and Harbison Road (E/W)	SB Left		C
		EB Left/Right		F (457.4)
(12)	Route 356 (N/S) and Bear Creek Road (E/W)	SB Left		C
		EB Left/Right		F (507.3)

Buffalo Township Land Use and Transportation Initiative

Study Intersections and Traffic Count Locations

- ☆ Study intersections
- ▲ Traffic counts
- Rural Major Collectors
- Minor Arterials
- Principal Arterials
- Expressways
- Roads
- Township Boundary
- # Intersection Reference



The preparation of this report was financed in part through a grant from the:

- United States Department of Transportation
- Pennsylvania Department of Transportation
- Southwestern Pennsylvania Commission

Graney, Grossman, Ray, Colosimo and Associates, Inc.
Project Planners
Herbert, Rowland, and Grubic, Inc.
Transportation Engineers

PEAK HOUR TRAFFIC SIGNAL WARRANTS - FUTURE CONDITION		
Intersection	2012 Projection	
	AM	PM
Route 356 and Younkens Drive	NO	NO
Route 356 and Route 28 Northbound On-Off Ramp	NO	YES
Route 356 and Route 28 Southbound On-Off Ramp	YES	YES
Route 356 and Silverville Road	YES	YES
Route 356 and Sarver Road (Route 228)	YES	YES
Route 356 and Monroe Road	YES	YES
Ekastown Road and Sarver Road	NO	NO
Route 356 and Sarver Road (Route 2018)	YES	YES
Ekastown Road and Route 908	YES	YES
Route 356 and Harbison Road	NA	NO
Route 356 and Bear Creek Road	NA	NO

A review of the existing 2002 Analysis and the 2012 Analysis yielded the following:

- Of the twelve (12) intersections studied, all twelve (12) were projected to operate with at least one approach at unacceptable condition (LOS E or F) in 2012, compared to four (4) intersections in the existing 2002 condition.
- Of the ten (10) unsignalized intersections studied, eight (8) were projected to meet peak hour warrants for installation of a traffic signal in 2012, compared to two intersections in the existing 2002 condition.

PART II VISION-BUILDING PROCESS

The idea of vision building is to simply solicit citizen and local leader attitudes and preferences before a plan is offered. Frankly, the idea of visioning was a result of planners and engineers trying to prevent failed planning processes by gaining some preconception of what will actually work in a given place. For this process, three visioning sessions were held, a local leaders evening session, a town hall meeting designed to attract many citizens, and an informal focus group discussion with members of the professional development community.

The actual agenda of a visioning session will actually vary, based upon the needs of the planning process. For a general planning process, it may start with very open-ended questions and end up addressing housing, economics, or community facilities. To keep this project focused on the key area of the relationship between transportation and land use, a more structured approach was warranted. The local leaders session and citizen town hall meeting were divided into three parts:

1. An introduction to the project, basic planning principles, and growth and development issues related to Buffalo Township.
2. A mapping exercise to “fit” anticipated growth of 1,700 new houses (the anticipated level of 15-20 years) at 3 units per acre, into the Township. Areas already identified as densely developed were excluded from placement. This was done with sticker-back icons representing the houses and the lands they would actually need on the map. Participants were broken into groups and could place the house icons where they agreed. Black drafting tape was then given to construct or improve up to 10 miles of roads by placing it on the map. There were a few differences in the approach for local leaders and citizens due to the fact that leaders have more technical knowledge of planning and relevant issues. However, the exercises were virtually identical.
3. The chance to select planning tools from a range of 8 specific growth management or traffic control approaches. These were presented as an illustration and a brief verbal definition and included:

Transportation Savings Account: Require developers to pay a fee based on the impact of their development on transportation beyond the site.

Require Streets to Interconnect: Manage traffic by limiting dead-end streets, giving cars multiple choices in moving.

Conservation Development: Limit impact of development by preserving rural character.

Impact-Based Zoning: Use zoning designations which purposely limit transportation impact.

Limit Commercial Curb Cuts: Create a planned pattern which includes fewer intersections with selected signalization and secondary access.

Limit Residential Curb Cuts: Use lot width or access limits to minimize new driveways.

Bike or Pedestrian Lanes: Limit congestion by giving people other ways to travel.

Results

Twenty-six local leaders and some citizens attended the first visioning session. About 140 persons attended the town hall meeting, held at the Freeport Area Senior High School. The local leaders were divided into five groups and the citizens were divided into ten groups to work on the maps. To identify areas of consensus, all the maps from each group were laid on a blank map. Clusters where four or more "houses" (over 200 units) agreed or two or more groups placed "roads" are shown on the attached two maps.

There were some important differences in the exercises. Citizen exercise maps only showed densely developed areas, while local leader maps had all land covers. Citizen exercises also began with an emphasis on excluding areas from development as a first step. Land improvements were more finitely defined for the local leaders group, which led to conflict over levels of improvements. Citizens

were asked to note road improvements by writing on their map and make more general recommendations.

In spite of differences in the exercises, there is substantial agreement in the visions. Two local leader groups and four citizen groups spread the housing widely through the Township. (One citizen group adamantly refused to use more than half of the allotted houses.) This might be thought of as a dispersal approach to preserve rurality.

Beyond this, both groups saw the northeastern quadrant of the Township as the most favorable location for their housing. Both groups also saw improvements to Ekastown Road, south of its junction with Eliot Road to the Township line, and some improvements to Route 356 as essential.

For the final part of the visioning meetings, the list of 8 tools was presented. Participants were then given stickers. As they left, they could place stickers on a tool they liked or did not like dependent on color. The stickers then became votes. To simplify the exercise with large numbers of citizens, their choice was confined to tools only. Local leaders used the stickers on maps as well. The following tables summarize tool preferences.

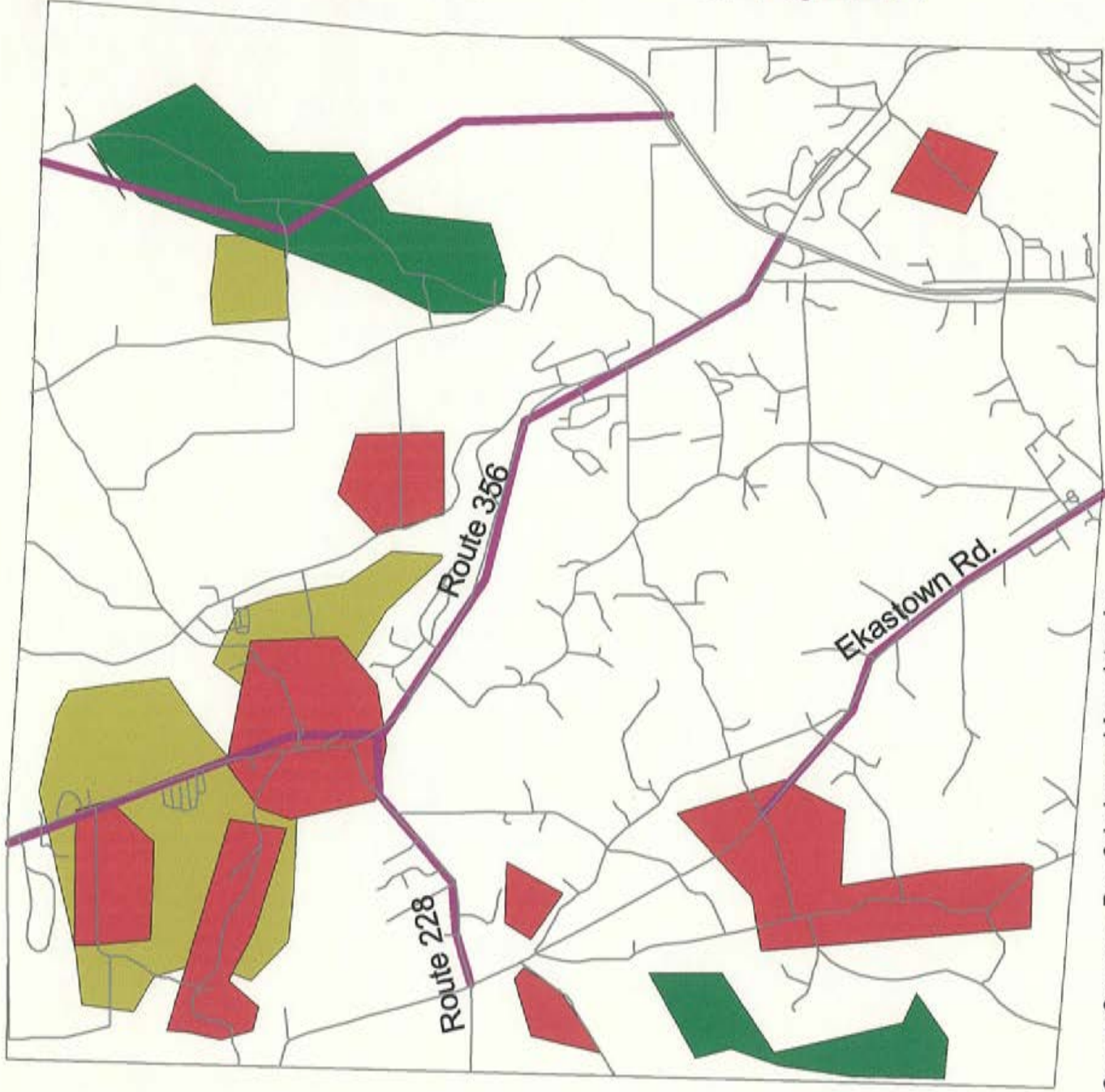
**BUFFALO TOWNSHIP
LOCAL OFFICIALS' VISIONING SESSION RESULTS**

Tool	Yes Votes	No Votes
Require streets to interconnect	2	
Conservation subdivision		1 *
Bike and pedestrian access	4	1
Limit commercial curb cuts	7	
Limit residential curb cuts	3	
Impact-based zoning	3	
Transportation saving account	12	
*No vote on disfavored option ("No cul-de-sacs")		

Buffalo Township Land Use and Transportation Initiative

Visioning

-  Roads and Streets
-  Township Line
-  Citizen Roads.
-  Citizen Preservation
-  Citizen Development
-  Local Officials Development



The preparation of this report was financed in part through a grant from the:

- United States Department of Transportation
- Pennsylvania Department of Transportation
- Southwestern Pennsylvania Commission

Graney, Grossman, Ray, Colosimo and Associates, Inc.
Project Planners
Herbert, Rowland, and Grubic, Inc.
Transportation Engineers

CITIZENS' VISIONING SESSION RESULTS

Tool	Yes Votes	No Votes
Require streets to interconnect	18	5
Conservation subdivision	41	3
Bike and pedestrian access	26	9
Limit commercial curb cuts	34	1
Limit residential curb cuts	0	35
Impact-based zoning	8	8
Transportation saving account	25	13

Many citizens also took the opportunity to make random comments on their maps or attached papers. One resident was concerned about the homes along the southern portion of Route 356 which he felt could not be sold as residential units and should be re-zoned as commercial. One resident was concerned about intersectional safety at the major intersections of Route 228. One group widened Route 356, Route 228, and Ekastown Road all to three lane. One stated Route 356 should be 4 lane and another adamantly said "no four-lane 356."

One group recommended straightening Coal Hollow Road as a second connector. Speed changes on 356 south of 228 were mentioned. Two groups mentioned density; one suggesting minimum one-acre lots and another wanting no less than one-half acre lots. There was some consensus on not developing the areas around Todd Sanctuary, the golf course, or farm areas in the southwest quadrant.

Finally, a morning focus group meeting was held with invited members of the local development community, including real estate professionals, builders, large land owners, and actual developers. About ten individuals attended from an invited list of 15. This group identified some issues based on open-ended questions and responded to a more informal toolbox list.

The focus group was concerned about congestion and construction delays along Route 28 in Allegheny County, particularly the Etna area. Because so much of the Township's residential real estate market was dependent on persons wishing to commute to the Pittsburgh metro area, they believed this situation was depressing the local market. Most believed significant commercial development would eventually follow residential growth, but was still at least several years way.

Others, recognizing the current traffic situation, were concerned about the unpredictability of transportation improvement costs and the inconsistencies of the PennDOT planning, permitting, and improvement processes.

Most agreed that some improvements to 356 were necessary. One business owner was in favor of trying to bypass the Township completely, but others disagreed. The consensus seemed to be limited improvements such as passing lanes, turning lanes and a few lights.

Talk turned to the general development climate in the Township. The groups were vociferous supporters of the Township updating its planning tools, including the comprehensive plan. These developers stated that they did not want to see another congested highway corridor with wall-to-wall housing here. Among specific planning tools, there was a brief discussion of four.

Conservation development was generally supported by developers as a means to broaden choice for home buyers while preserving green space. There was some doubt as to its utility for farmland protection. One developer was very supportive of any movement toward traditional neighborhood models of higher-density housing surrounded by dedicated or permanently preserved open lands. One said that the smaller lots could be a tough sell unless the idea of permanent green space was aggressively marketed. All agreed it would be a good approach to widen choice. Related to this the concept of integrating bike and pedestrian access into transportation planning was widely supported, as it could be found to be financially feasible. The idea of limiting commercial curb cuts and shared access was supported if it could be done with cognizance of land use. Developers do not want to mix residential development and commercial uses in such a scheme if the traffic generated by the latter will impact the livability of the former. Finally, the idea of transportation capital improvements planning (impact fees) was widely supported as a way to level the playing field for all developers, especially where it would be an outgrowth from preparation of an overall plan.

PART III

BUFFALO TOWNSHIP

LAND USE AND TRANSPORTATION PLAN

Introduction: Buffalo Township can expect to see significant growth and development of over the next ten to twenty years. The majority of this will be in the form of residential dwelling units. Public attitudes about this growth and development range from ambiguous to hostile. This report cannot change the projected future; it can only offer solutions to the specific impacts of that projection on transportation and land use in major traffic corridors. However, it must be stated that the community-level conversation about future growth and development issues should be continued. For that reason, this Plan is presented in a “triage” format. First is an initial Land Use Plan. This is meant to provide a vision to support some of the land use policy recommendations. Some immediate recommendations should be pursued to improve major roads in the Township and manage access to preserve the investment that will be made in improvements. Principles should also be adopted as a starting point for this and future efforts. This broader vision serves to keep the continuing conversation (which is really a planning process) within proper bounds. The initial Land Use Plan is followed by a short-term action plan and long-term action plan for land use.

Initial Land Use Plan: The Land Use Plan is based upon meeting the need of anticipated future dwellings, and the commercial growth and development which will inevitably follow. The Plan divides the Township into four sectors, as shown on the Key Plan Concepts Map, and offers specific recommendations to either preserve existing features or manage the traffic that growth and development pressure bring.

Existing Residential/Rural Preservation - “Rural Character” and “Rural Setting” were named time and time again as the reason people like living in Buffalo Township. This is the largest area depicted on the Key Plan Concepts Map. It is also well understood that these landscapes are at risk and often incompatible with considerable growth and development. Due to the economics of agriculture, and the aging populace that make up the County’s farmers, there will be continual pressure to develop farmland for other uses. At present, the Township prohibits the creation of more than 5 new lots in agriculturally zoned areas. This is a sound policy as significant development would require re-zoning. Re-zoning is a process to amend the zoning map, which is a part of the ordinance. Of all zoning actions,

this is the one in which the community has the strongest control of the process and the greatest right to say "no." The problem is that the Township's planning data is outdated and it is difficult to know when such re-zoning actions are beneficial to long-term community development, when they are neutral or acceptable, and when they can bring harm.

The Township must define indicators of where rural features must be protected from the side effects of development, while possibly accommodating some development which is sensitive to the rural context.

One indicator may be the participation in the Agricultural Security Area program. This can be accepted as at least a statement of preference if a land owner intends to keep the property in agricultural use.

However, in recognizing that agriculture is becoming more economically difficult, many farmers may need to sell property. The current regulations allow 5 lots by right. However, at some point, the Township will see continued pressure to re-zone tracts to R-1 or R-2, which typically result in complete suburbanization of the tract. Another option is necessary to accommodate some development while preserving open space.

Other indicators may be environmentally sensitive areas, such as the presence of steep slopes. Steep slopes are typically scenic, but their importance is beyond aesthetics. Misuse of steep slopes results in long-term geologic and hydrologic problems.

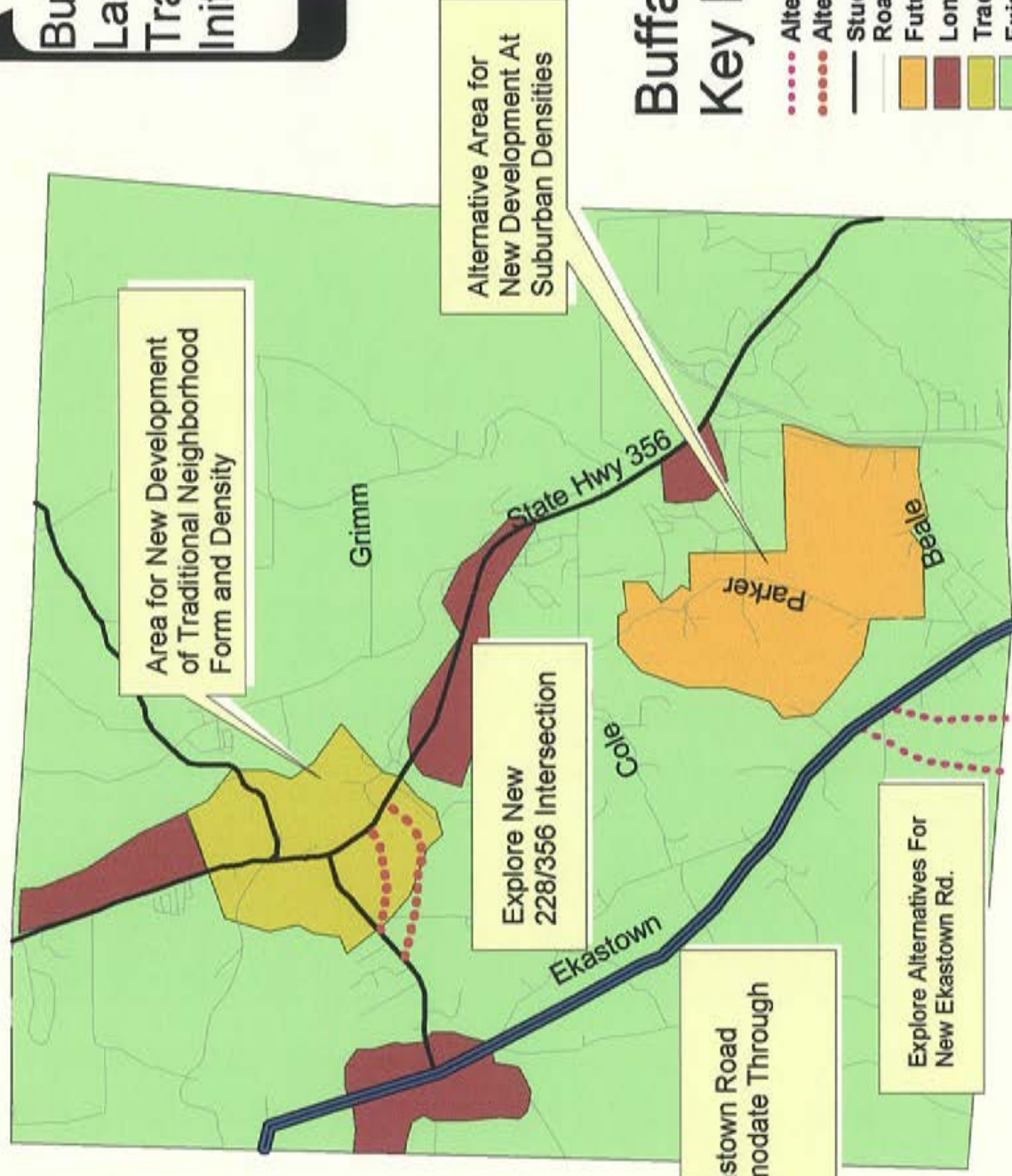
The key for the Township is to identify key natural and rural features and require major development to account for these. Developers should be given a choice of lowering density or concentrating development where it preserves rural features. Many regard minimum lot size as a way to do this, but in the long term, this can still result in "wall-to-wall" housing tracts, only at lower density. Some permanent open space must be a part of every major residential development. The short-term action plan gives some choices to do this.

Traditional Neighborhood Development - The Key Plan Concepts Map recommends targeting development in the area generally surrounding the Route 356/228 intersection. Consideration may be given to guiding the pressure of development here. To do so would require an increase in density, perhaps from the

Buffalo Township Land Use and Transportation Initiative

Buffalo Township: Key Plan Concepts

- Alternate new ekastown road
- Alternate new 228
- Study Corridors
- Roads
- Future suburban density development
- Long Term Commercial Cores
- Traditional neighborhood development
- Existing Residential/Rural Preservation



The preparation of this report was financed in part through a grant from the:

- United States Department of Transportation
- Pennsylvania Department of Transportation
- Southwestern Pennsylvania Commission

Graney, Grossman, Ray, Colosimo and Associates, Inc.
Project Planners
Herbert, Rowland, and Grubic, Inc.
Transportation Engineers

current standard of roughly 2 units per acre to roughly 3-4 units per acre. This gives developers an advantage which would make this option more attractive than re-zoning a tract in a rural area. However, this density increase must be accomplished by quality standards:

- Sidewalks
- Street trees
- Preservation of some open space, both within and around the development

These generally fall under the category of neo-traditional planning, which purposefully tries to replicate the best features of small towns like Saxonburg within new development. Such development standards may be included in zoning ordinances as authorized by Article VII.A of the Pennsylvania Municipalities Planning Code (Traditional Neighborhood Development). The enactment of such regulations would allow many homes to be accommodated in a small portion of the Township, in a high-quality setting.

Future Suburban Density Development – The alternative development area to the south is more controversial. Development here should be at similar densities to the current ordinance. However, even here open space preservation of 20 percent should be sought.

Key Commercial Areas – Finally, there are key commercial areas. Significant commercial development is not anticipated in the near future. The identified areas will accommodate reasonable future needs. However, there must be strong guiding to these areas. Significant commercial development elsewhere would negate any traffic improvements. Standards must also be in place to assure that as development in these areas grows and intensifies, inter-business and inter-area access management is ensured.

SHORT-TERM LAND USE ACTION PLAN

Action plans are meant to be like punch lists. They briefly describe specific activities which will fulfill the vision presented in the Land Use Plan. The difference is that an action plan divides the vision into small doable activities. Short-term activities are ones which can achieve lasting results relatively quickly.

Action: Amend the Buffalo Township Subdivision and Land Development Ordinance to:

- Limit the number of lots served by cul-de-sacs, and limit circumstances cul-de-sacs may be used.
- Require greater street interconnectivity.
- Size street improvements to density of development.
- Require pedestrian systems (sidewalks or footpaths) for all major development.
- Integrate net density standards into the creation of new lots.

Suggested model text is included in the Appendices.

Action: Create an Overlay Zoning District which applies to all properties abutting Route 356, Route 228, and the Ekastown Road. The full text of such an ordinance, and zoning map showing effected areas, is included as Appendices V.

This Overlay District has two parts. The first applies to all districts affected. The second applies to each individual district.

- All districts:
 - Minimum setback 100 feet from right-of-way

- Corner lots must access from road with lowest ADT, hierarchically lowest, or road leading into designated key arterials.
- New roads, streets, or driveways must coordinate access with pre-existing roads, streets, or driveways on opposite side of street.
- Minimum standards for corner clearance.
- Parking lots must interconnect, or leave right-of-way for future interconnection.

These standards ensure that all new developments are far enough from the corridor to not interfere with future widenings, future signals may be logically emplaced, and local traffic interference with through traffic is minimized. As an Overlay District, there are also specific district standards.

- Agriculture (A-1 District)
 - Minimum width of new lot 400 feet.
 - Driveways to be spaced to assure maximum distance between each driveway.
- R-Residence Districts (R-1 and R-2 Districts)
 - Recognizing that housing units on the major corridors may have limited viability as single-family residences, the ordinance establishes a conversion standard for single-family dwellings to offices, conversion apartment dwellings for up to 2 families, public buildings, personal care homes.
- Business Districts (B-1 and B-2 Districts)
 - Ties standards for retail business to the size of the building and the traffic likely to be generated.

- Manufacturing Districts (M-1 and M-2 Districts)
 - Create special standards for traffic-intensive uses to buffer their effect on neighboring properties.

LONG-TERM LAND USE ACTION PLAN

Action: Begin examining creation of a new conservation residential zoning district which preserves rural character, but do not designate the district on the map. Requests for re-zoning from A-2 to R-1 or R-2 would then have a third option, with rural standards.

Standards:

Major subdivision (more than 10 new lots within a 5-year period) is a conditional use within the district.

Minimum Lot Size – 25,000 square feet, but no more than 1 dwelling unit per 2 acres overall (overall density rather than minimum lot size).

Steep slopes, wetlands, floodplains must be mapped prior to subdivision and may not be included in overall density calculations (see Short-Term Action on net density).

Prime active farmlands and woodlands must be mapped prior to subdivision.

A minimum of 50 percent of the development shall be preserved as permanent open space.

Resources:

Growing Greener: A Conservation Planning Workbook for Municipal Officials in Pennsylvania (Natural Lands Trust)

Rural by Design by Randall Arendt (Planners Press, 1994)

Pennsylvania Environmental Council (PEC) Greener Visions Grant (PEC Pittsburgh Office: 412-481-9400)

Action: Begin examining a Traditional Village Overlay District for the targeted growth area surrounding the Route 356/228 intersection.

- Allow density increase in exchange for more quality standards.
- Require higher level of design review as allowed by the MPC.
- Require street trees, sidewalks, and both interior and buffering open space.

Resources:

Visions for a New American Dream by Anton Nelessen (1994, Planners Press)

Crossroads, Hamlet, Village, Town by Randall Arendt (1994, Planners Press)

Pennsylvania Environmental Council Greener Visions Grant (PEC Pittsburgh Office: 412-481-9400)

Action: Begin a full comprehensive plan update, possibly in agreement with another community.

- Use the land use and transportation initiative to “continue the conversation” with the public.
- Use simple joint zoning agreements to target development regionally as now allowed by the Planning Code.

Resources:

Land Use Planning Technical Assistance Grant, Pennsylvania Department of Community and Economic Development (DCED Center for Local Government Services – 1-888-2CENTER)

The Heinz Foundation also has a small grant for joint planning.

Action: Begin examining an impact fee ordinance as authorized by Article V-A of the Pennsylvania Municipalities Planning. However, it is crucial that this action follow any comprehensive plan and zoning changes.

- Designate traffic impact districts.
- Estimate development from this report's projection.
- Estimate value of impact fees.

Resources:

Cranberry Township, Butler County

Action: Re-examine sign regulations to differentiate between various sign types and their potential impacts, and generally modernize the ordinance. A discussion of off-premise signs/billboards should be held with the Township solicitor. Pressure for billboards will grow as traffic counts rise.

Resources:

Model ordinances in the Appendices

Model 1 – Adapted from Huntingdon County (more restrictive)

Model 2 – Adapted from Springfield Township, Mercer County (less restrictive)

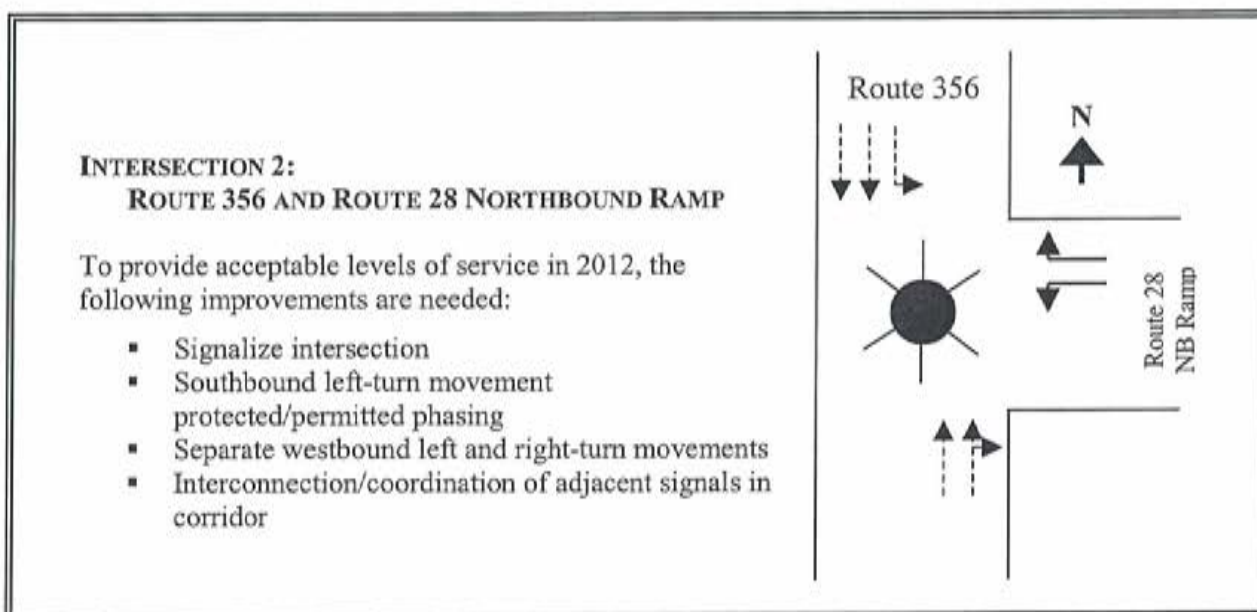
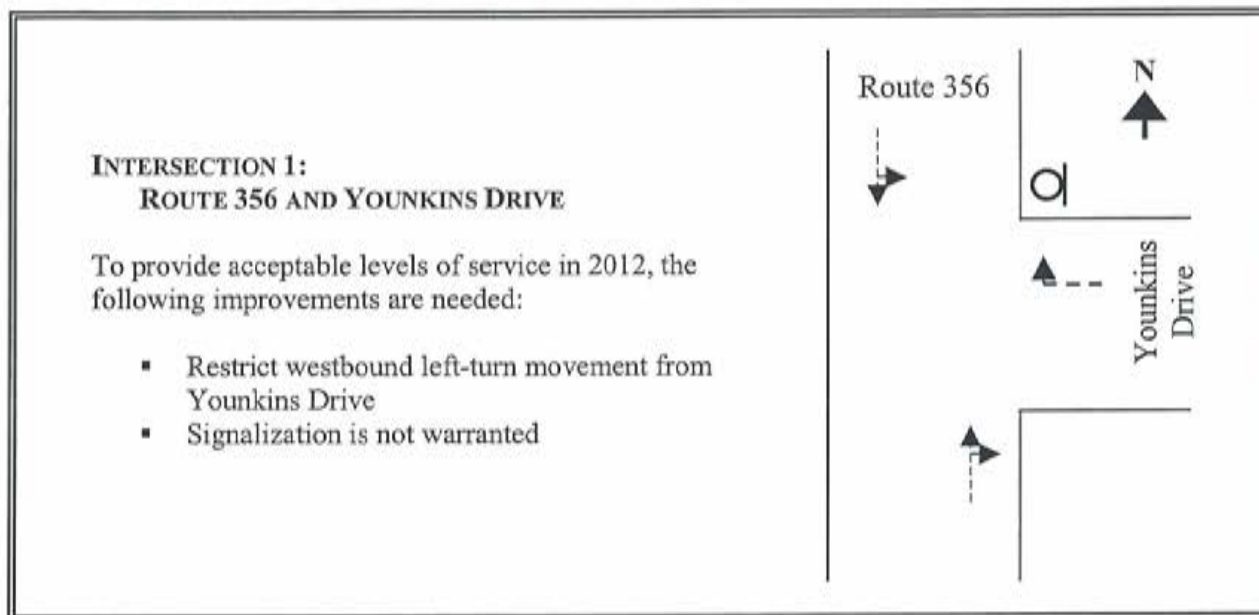
TRANSPORTATION IMPROVEMENTS PLAN

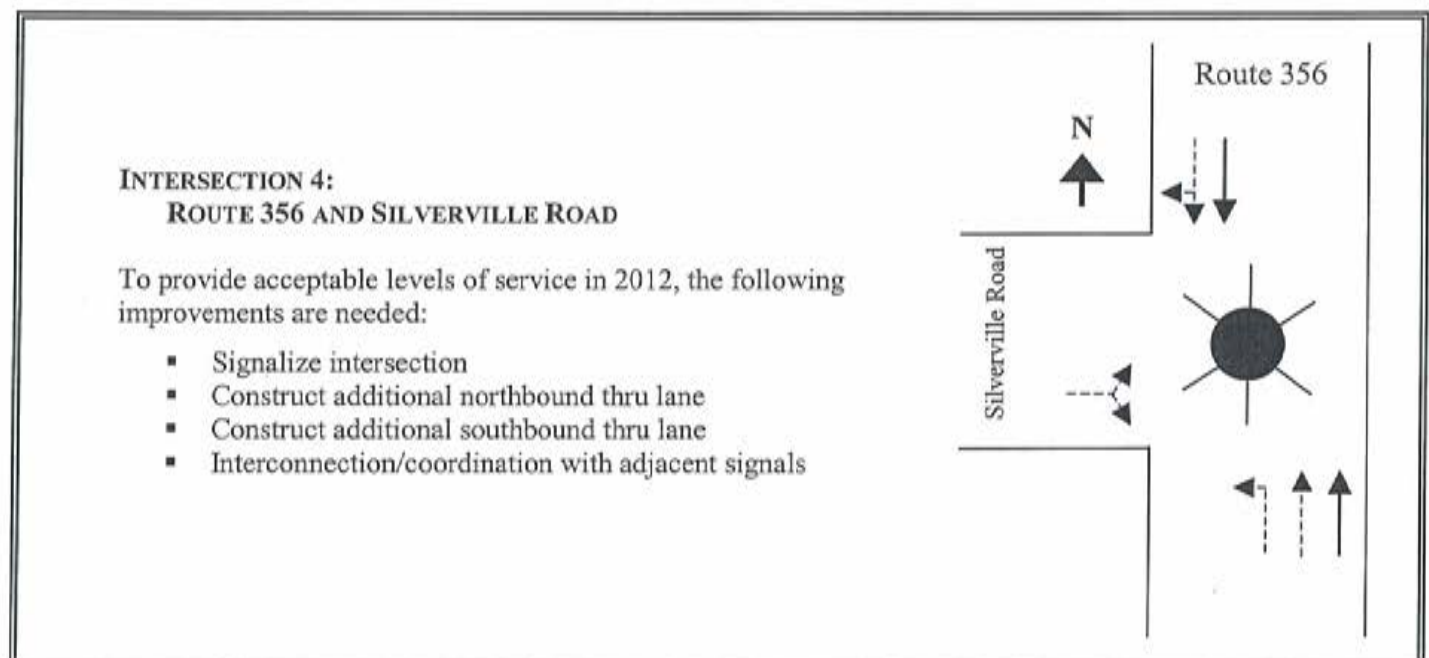
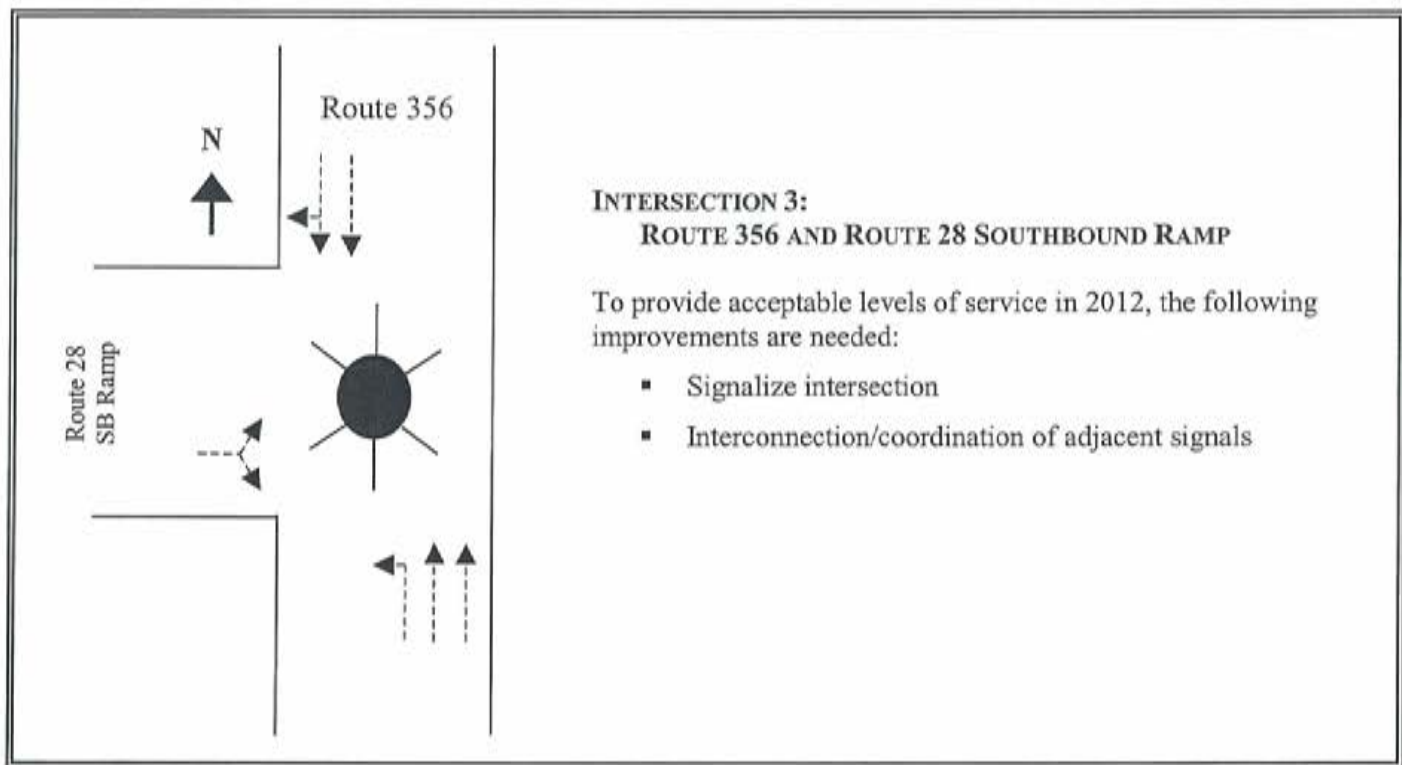
A. Identification of Required Improvements

Based on the results of the traffic analyses, existing and forecasted safety and/or capacity deficient locations or conditions were identified. HRG has determined and specified the required roadway improvements anticipated to be needed (based on the land use assumptions developed as part of this initiative) to maintain the required level of service (LOS D or better) in accordance with PennDOT. Specific

recommendations for intersection improvements, traffic control, lane geometrics, and turn lane requirements are suggested to mitigate these anticipated deficiencies.

The recommendations to accommodate future 2012 traffic conditions are graphically displayed in the following figures. The resulting capacity analyses are summarized in the table which follows the figures.

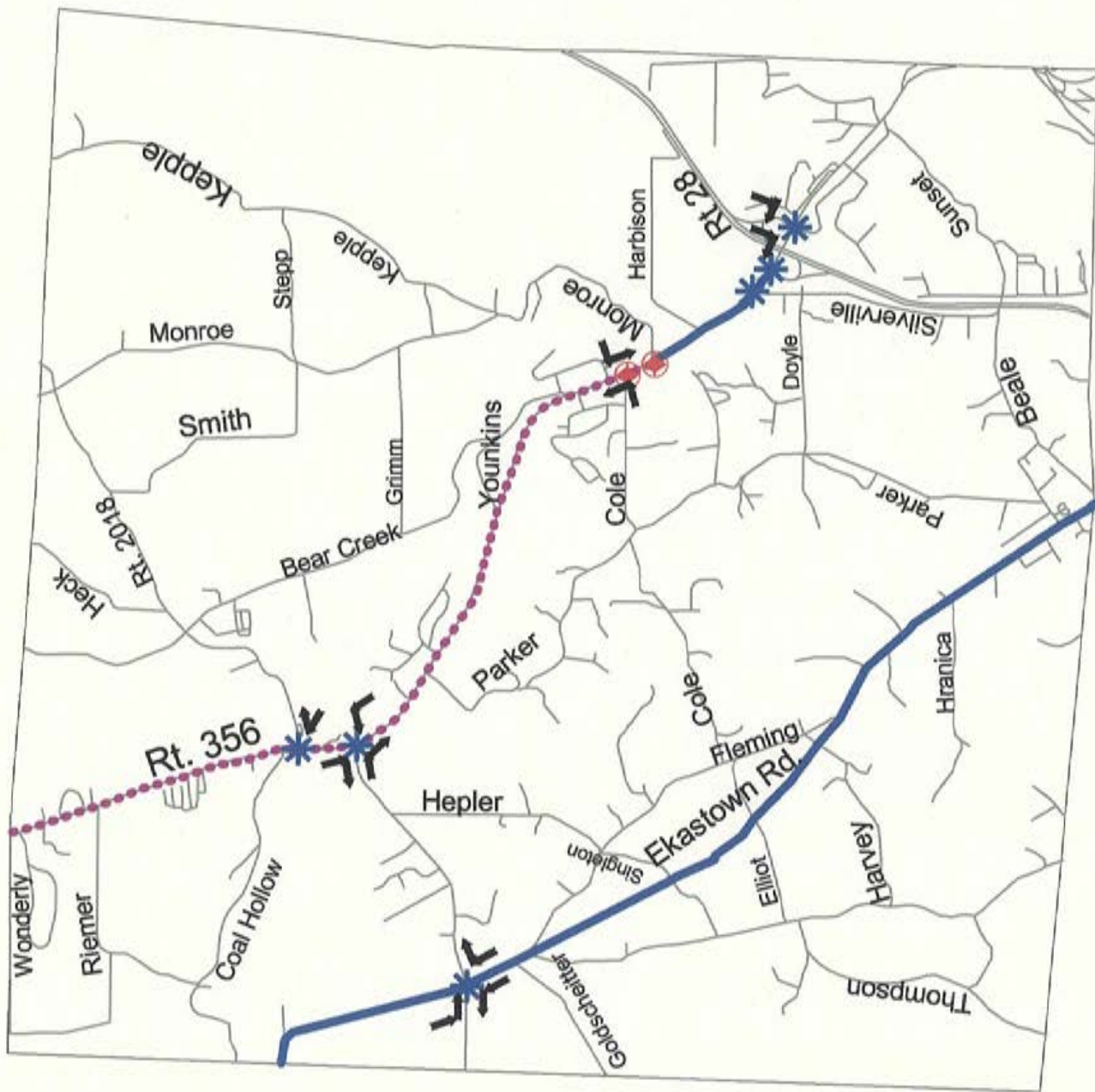




Buffalo Township Land Use and Transportation Initiative

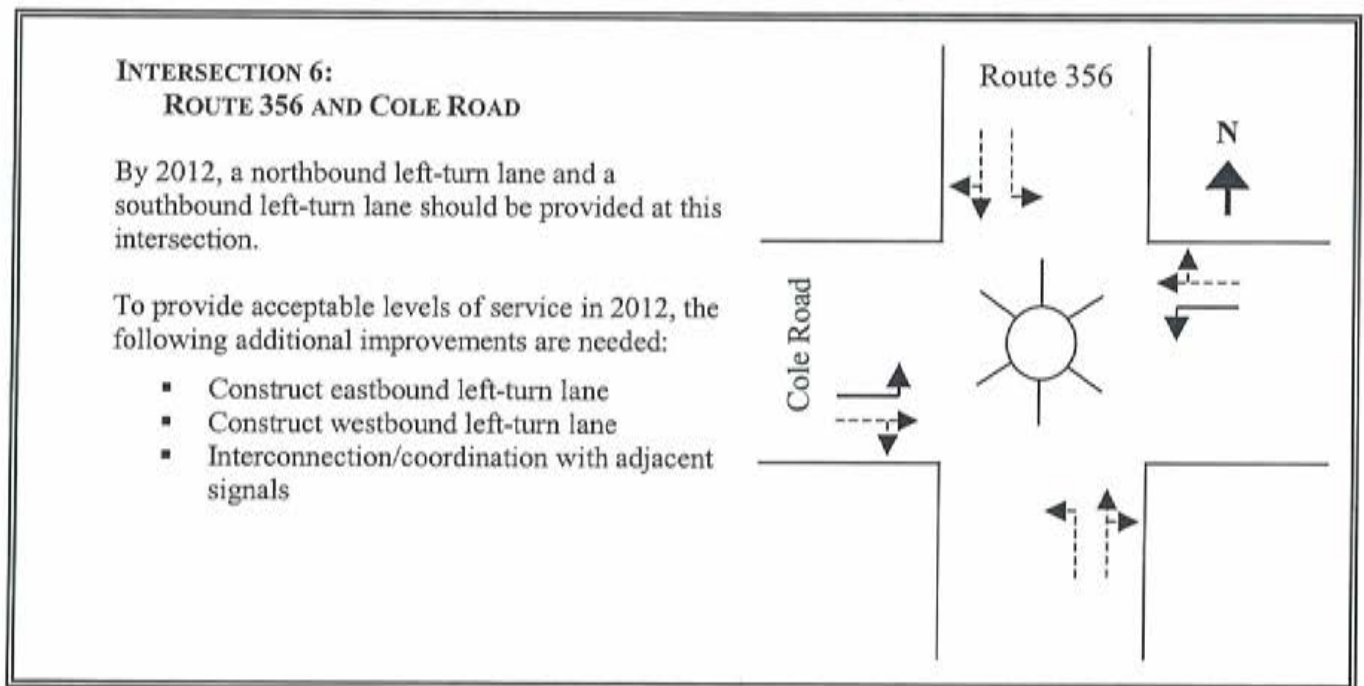
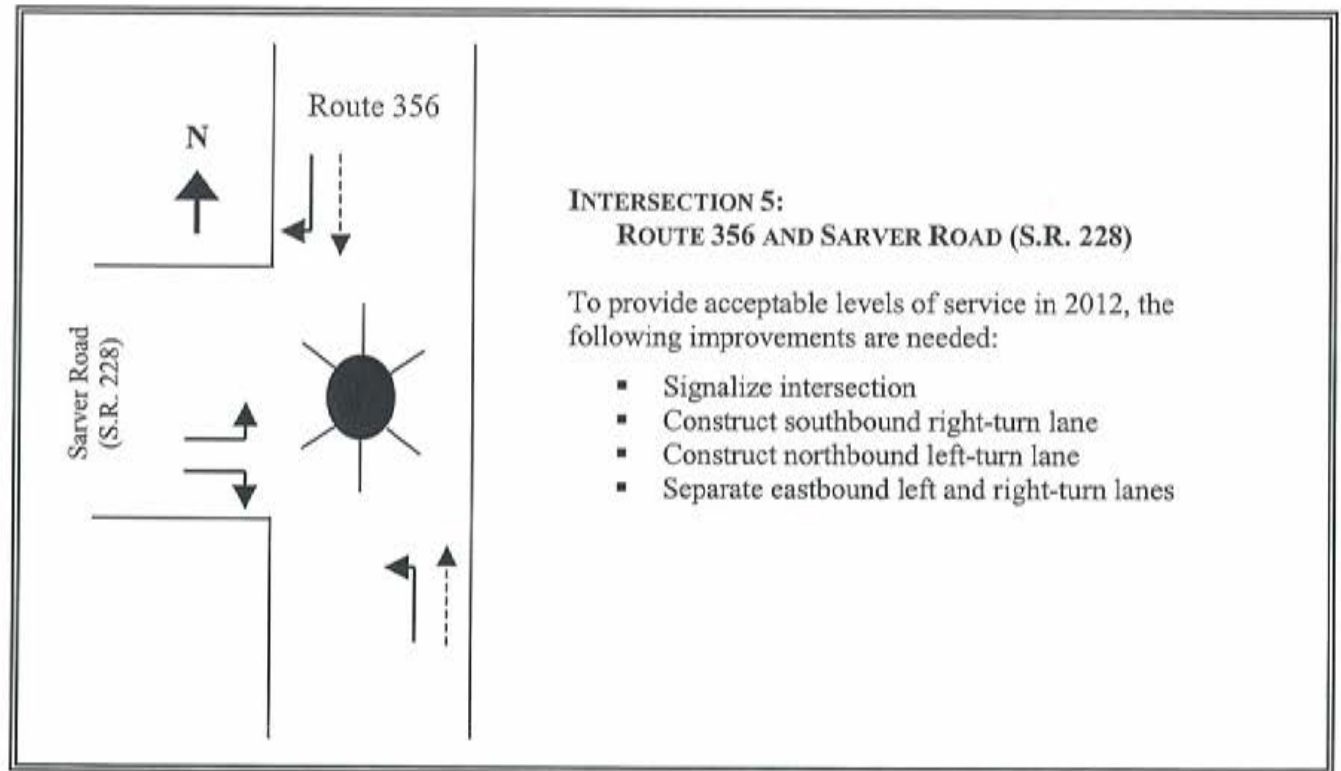
Transportation Improvements Plan

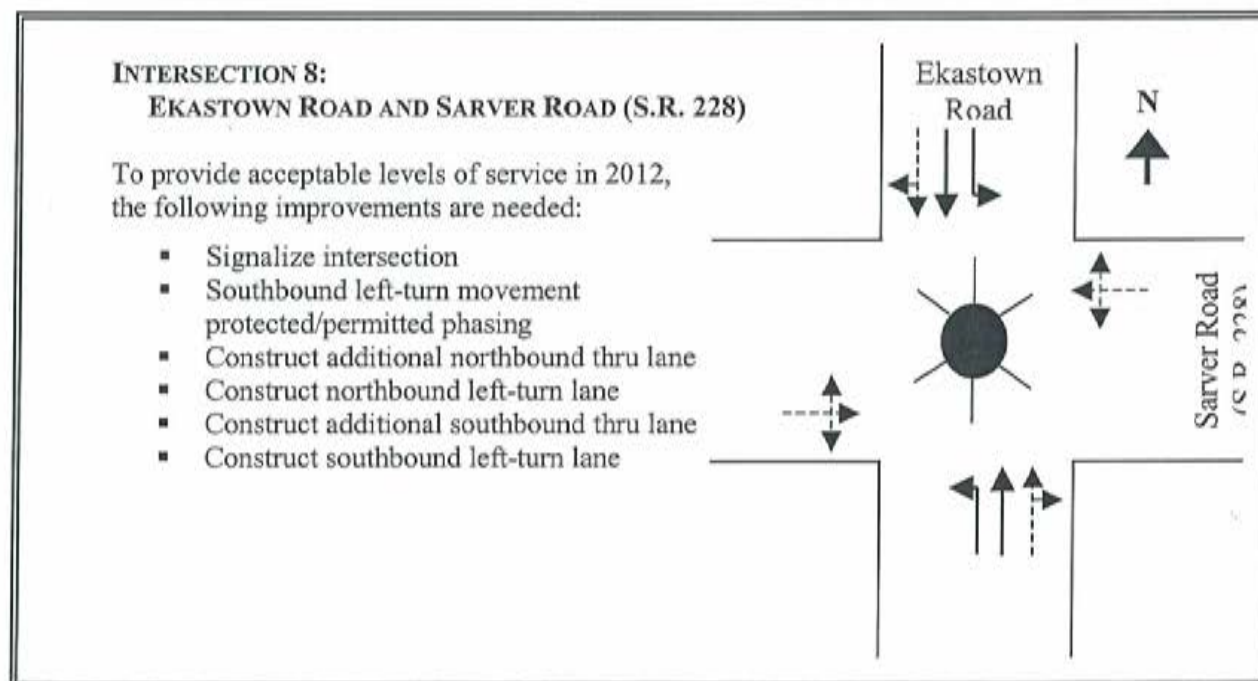
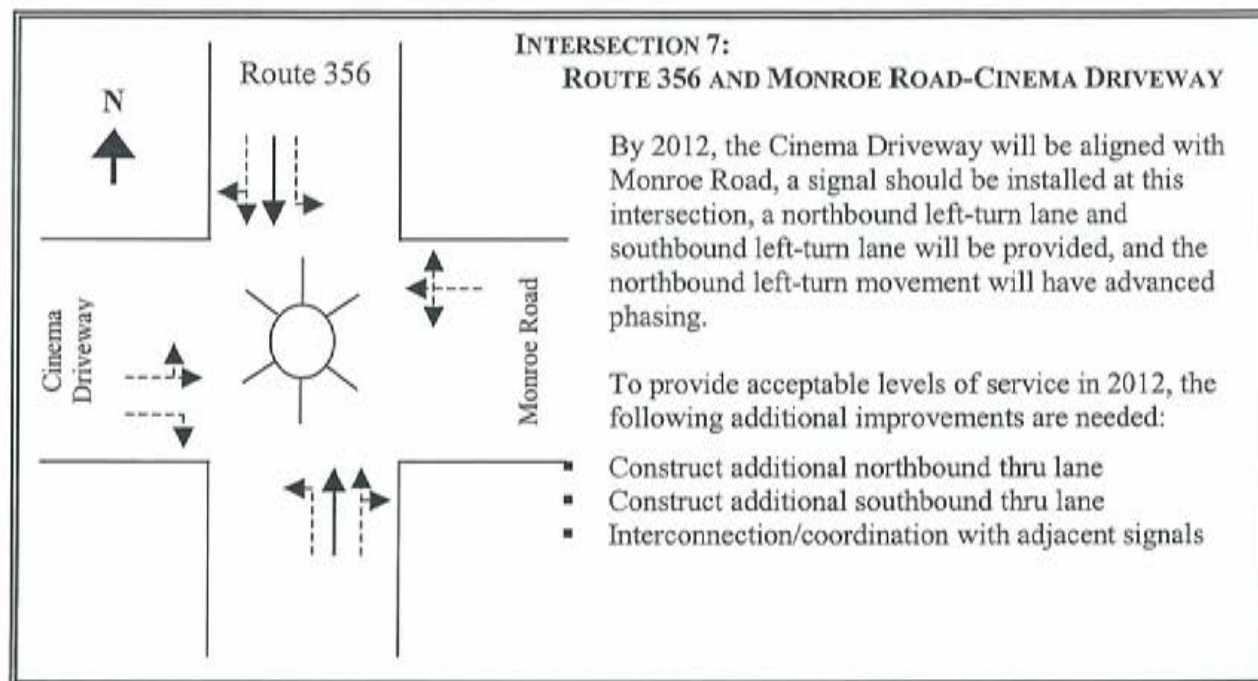
- ↑ Construct new turn lane
- * Install traffic signal (2012)
- Existing traffic signal (2012)
- ... Select three lane roadway
- Four through lane roadway
- Roads
- Township Boundary

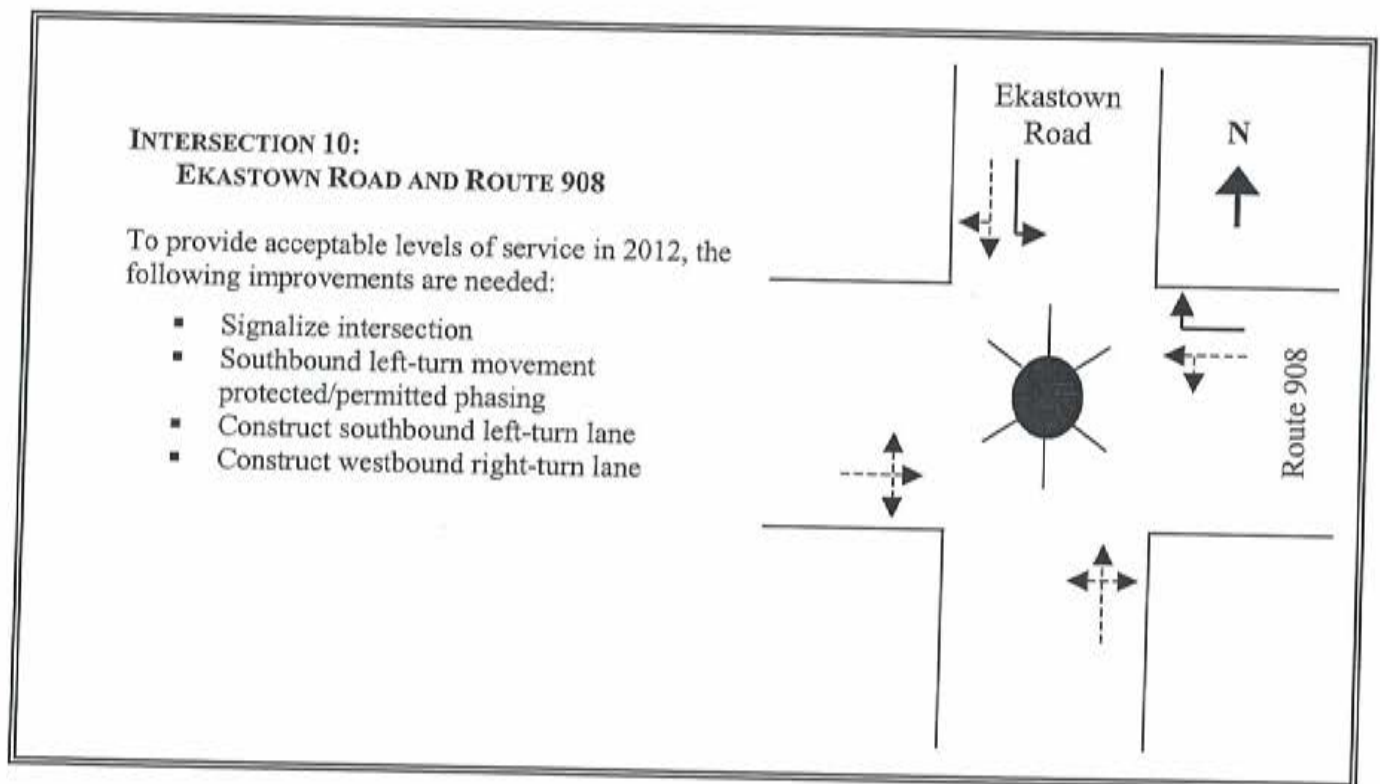
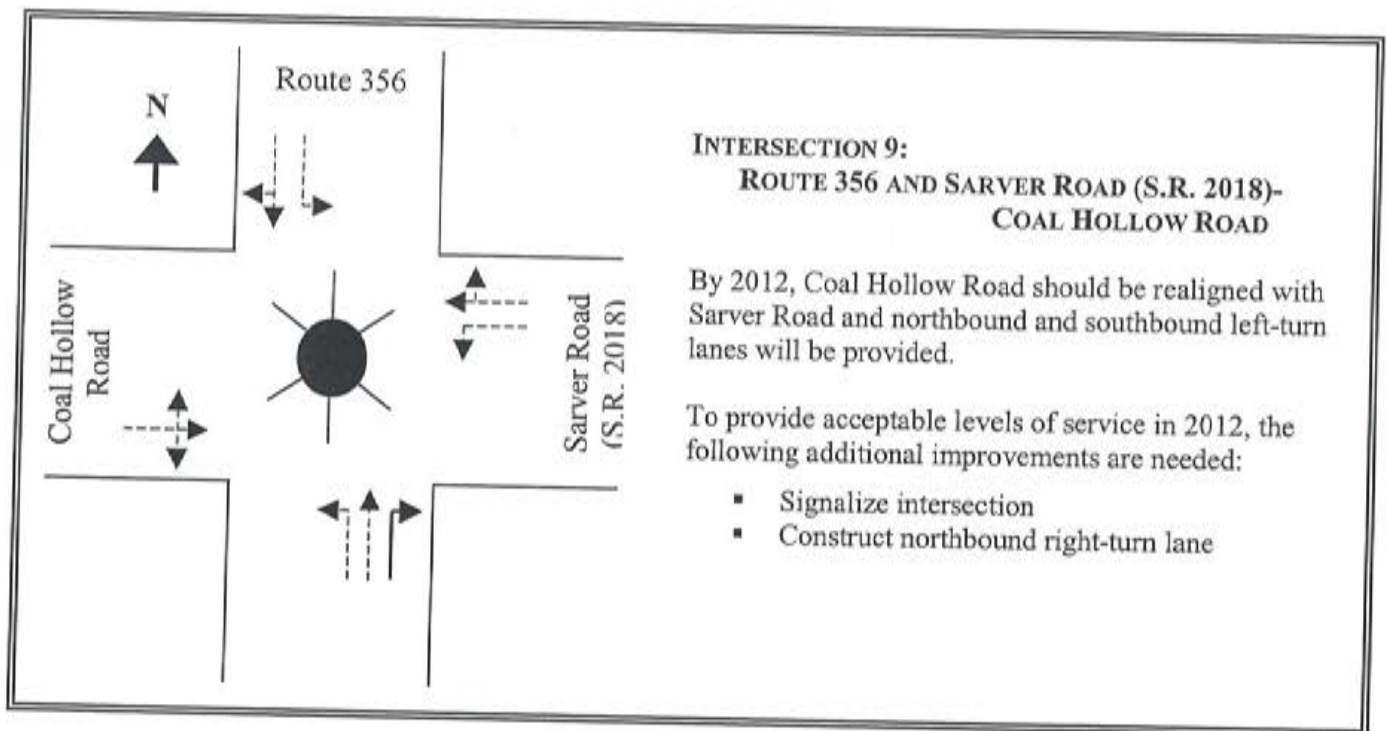


Graney, Grossman, Ray, Colosimo and Associates, Inc.
Project Planners
Herbert, Rowland, and Grubic, Inc.
Transportation Engineers

The preparation of this report was financed in part through a grant from the:
-United States Department of Transportation
-Pennsylvania Department of Transportation
-Southwestern Pennsylvania Commission



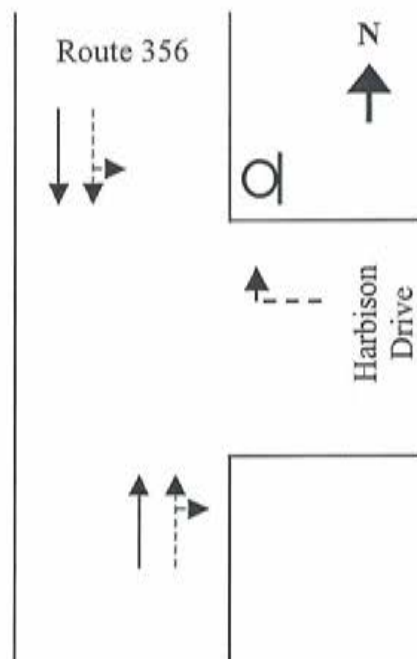




**INTERSECTION 11:
ROUTE 356 AND HARBISON ROAD**

To provide acceptable levels of service in 2012, the following improvements are needed:

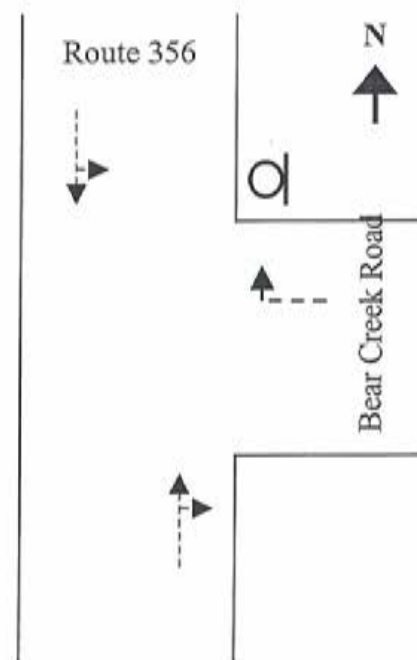
- Restrict westbound left-turn movement from Harbison Road
- Construct additional northbound thru lane
- Construct additional southbound thru lane
- Signalization is not warranted



**INTERSECTION 12:
ROUTE 356 AND BEAR CREEK ROAD**

To provide acceptable levels of service in 2012, the following improvements are needed:

- Restrict westbound left-turn movement from Bear Creek Road
- Signalization is not warranted



LEVEL OF SERVICE SUMMARY – FUTURE CONDITION WITH IMPROVEMENTS				
Intersection		Movement	2012 Projection With Improvements	
			AM	PM
(1)	Route 356 (N/S) and Younkins Drive (E/W)	SB Left/Thru	A	B
		WB Right	B	D
(2)	Route 356 (N/S) and Route 28 Northbound On-Off Ramp (E/W)	WB Left	B	B
		WB Right	A	D
		NB Thru/Right	B	C
		SB Left	A	C
		SB Thru	A	B
		Overall	B	C
(3)	Route 356 (N/S) and Route 28 Southbound On-Off Ramp (E/W)	EB	C	C
		NB Left	D	A
		NB Thru	A	B
		SB	B	C
		Overall	B	B
(4)	Route 356 (N/S) and Silverville Road (E/W)	EB	D	C
		NB Left	C	B
		NB Thru	A	B
		SB	B	A
		Overall	B	B
(5)	Route 356 (N/S) and Sarver Road (Route 228) (E/W)	EB Left	D	D
		EB Right	C	B
		NB Left	A	A
		NB Thru	A	D
		SB Thru	D	D
		SB Right	A	A
		Overall	C	D
(6)	Route 356 (N/S) and Cole Road (E/W) Signalized	EB Left	C	D
		EB Thru/Right	D	D
		WB Left	D	D
		WB Thru/Right	C	D
		NB Left	B	A
		NB Thru/Right	B	D
		SB Left	A	A
		SB Thru/Right	D	A
		Overall	D	D
(7)	Route 356 (N/S) and Monroe Road (E/W)	EB Left/Thru	C	D
		EB Right	C	C
		WB	C	C
		NB Left	B	C
		NB Thru/Right	A	B

LEVEL OF SERVICE SUMMARY – FUTURE CONDITION WITH IMPROVEMENTS				
	Intersection	Movement	2012 Projection With Improvements	
			AM	PM
		SB Left	B	B
		SB Thru/Right	C	B
		Overall	B	C
(8)	Ekastown Road (N/S) and Route 228 (E/W)/Sarver Road (All-way Stop - Flashing Beacon)	EB	C	C
		WB	D	D
		NB Left	B	C
		NB Thru/Right	C	D
		SB Left	B	D
		SB Thru/Right	B	B
		Overall	C	C
(9)	Route 356 (N/S) and Sarver Road (S.R. 2018) (E/W)	EB	C	C
		WB Left	D	D
		WB Thru/Right	C	D
		NB Left	A	A
		NB Thru	A	C
		NB Right	A	A
		SB Left	A	D
		SB Thru/Right	C	A
(10)	Ekastown Road (N/S) and Route 908 (E/W) (All-way Stop - Flashing Beacon)	Overall	C	C
		EB	D	D
		WB Left/Thru	D	C
		WB Right	A	D
		NB	D	D
		SB Left	D	D
		SB Thru/Right	A	A
(11)	Route 356 (N/S) and Harbison Road (E/W)	Overall	C	D
		SB Left		C
(12)	Route 356 (N/S) and Bear Creek Road (E/W)	EB Right		C
		SB Left		C
		EB Right		E

B. Recommendations and Conclusions

The recommendations to accommodate future traffic conditions were presented to the public on May 7, 2002 and are summarized on the Key Plan Concepts Map. The following is a summary of the recommended improvements with public response indicated in *italics*:

- With the recommended short-term and long-term improvements, all intersections were projected to operate under acceptable conditions (LOS D or better).
- The travel demand model included the future promotion of Ekastown Road (S.R. 2009) as an alternate access to Route 28. The analysis included a significant redistribution of future trips generated within and outside Buffalo Township via Ekastown Road, using improved signage and markers and maintenance priorities. Should this strategy be implemented, the functional classification of Route 908 from the Route 28 interchange in Fawn to Ekastown Road as well as Ekastown from Route 908 to the Clinton Township line would need to be upgraded to an Arterial classification. *This received favorable support from the public.*
- Based on the projected traffic demand, the required improvements include upgrading Ekastown Road to a four-lane roadway from the Clinton Township line to Route 908 in Fawn Township. Auxiliary turn lanes should be provided major intersections and critical site access points, as needed. Any improvements south of Buffalo Township will need to be discussed with Fawn Township, Allegheny County and District 11-0 of the Pa. Department of Transportation. *This concept received strong support from the public in a way to better handle both existing and anticipated through traffic to and from Route 28.*
- Due to the reduction of setbacks to existing homes and businesses south of Hranica Drive, relocation of the lower portion of Ekastown Road through the old landfill site to the west should be considered in the future. *This also received favorable support from the public.*
- Associated widening of Ekastown Road for turn lanes at the Route 228 and Route 908 intersections is also included in the recommendations.
- The redirection of traffic and improvements to Ekastown Road does not preclude additional required improvements on Route 356.

- Under both existing and future conditions, the intersection of Route 228 and Route 356 requires signalization and the addition of turn lanes. *This received the highest priority response from the public.*
- Due to the topography and obstructions at the Route 228 and Route 356 intersection, relocation of the intersection further south should be considered. *However, this did not receive strong public support.*
- Based on the projected traffic demand, the required improvements include upgrading Route 356 to a four-lane roadway from Monroe Road/Cinema Driveway to the Route 28 interchange. The widening of this ½-mile section approaching the Route 28 interchange may be required in the future. *The widening of all of Route 356 to four/five lanes received negative public support.*
- The remainder of the Route 356 recommendations included signalization and the addition of turn lanes at appropriate locations. *This received favorable public support.*
- The Route 228/Ekastown Road and Route 228/Route 356 intersections would benefit from upgrading an additional connector roadway between Route 228/Ekastown Road and Route 356, within (i.e. Coal Hollow Road) or north of the Township. *Locating this connector north of the Township received favorable public support.*
- Interconnection of adjacent traffic signals, especially along Route 356, should be stressed to enhance the capacity of this corridor by providing a progressive movement of traffic along the subject roadway.

CONCLUSIONS: A SUMMARY OF LAND USE AND TRANSPORTATION RECOMMENDATIONS

Short Term – Land Use (2002-2003)

Amend the Buffalo Township Subdivision and Land Development Ordinance to:

- Limit the number of lots served by cul-de-sacs, and limit circumstances cul-de-sacs may be used.
- Require greater street interconnectivity.
- Size street improvements to density of development.
- Require pedestrian systems (sidewalks or footpaths) for all major development.
- Integrate net density standards into the creation of new lots.

Suggested model text is included in the Appendices.

Create an Overlay Zoning District which applies to all properties abutting Route 356, Route 228, and the Ekastown Road. The full text of such an ordinance, and zoning map showing effected areas, is included as Appendices V.

This Overlay District has two parts. The first applies to all districts affected. The second applies to each individual district.

- All districts:
 - Minimum setback 100 feet from right-of-way
 - Corner lots must access from road with lowest ADT, hierarchically lowest, or road leading into designated key arterials.

- New roads, streets, or driveways must coordinate access with pre-existing roads, streets, or driveways on opposite side of street.
- Minimum standards for corner clearance.
- Parking lots must interconnect, or leave right-of-way for future interconnection.

These standards ensure that all new developments are far enough from the corridor to not interfere with future widenings, future signals may be logically emplaced, and local traffic interference with through traffic is minimized. As an Overlay District, there are also specific district standards.

- Agriculture (A-1 District)
 - Minimum width of new lot 400 feet.
 - Driveways to be spaced to assure maximum distance between each driveway.
- R-Residence Districts (R-1 and R-2 Districts)
 - Recognizing that housing units on the major corridors may have limited viability as single-family residences, the ordinance establishes a conversion standard for single-family dwellings to offices, conversion apartment dwellings for up to 2 families, public buildings, personal care homes.
- Business Districts (B-1 and B-2 Districts)
 - Ties standards for retail business to the size of the building and the traffic likely to be generated.
- Manufacturing Districts (M-1 and M-2 Districts)
 - Create special standards for traffic-intensive uses to buffer their effect on neighboring properties.

Long Term – Land Use

Begin examining creation of a new conservation residential zoning district which preserves rural character, but do not designate the district on the map. Requests for re-zoning from A-2 to R-1 or R-2 would then have a third option, with rural standards.

Standards:

Major subdivision (more than 10 new lots within a 5-year period) is a conditional use within the district.

Minimum Lot Size – 25,000 square feet, but no more than 1 dwelling unit per 2 acres overall (overall density rather than minimum lot size).

Steep slopes, wetlands, floodplains must be mapped prior to subdivision and may not be included in overall density calculations (see Short-Term Action on net density).

Prime active farmlands and woodlands must be mapped prior to subdivision.

A minimum of 50 percent of the development shall be preserved as permanent open space.

Begin examining a Traditional Village Overlay District for the targeted growth area surrounding the Route 356/228 intersection.

- Allow density increase in exchange for more quality standards.
- Require higher level of design review as allowed by the MPC.
- Require street trees, sidewalks, and both interior and buffering open space.

Begin a full comprehensive plan update, possibly in agreement with another community.

- Use the land use and transportation initiative to “continue the conversation” with the public.
- Use simple joint zoning agreements to target development regionally as now allowed by the Planning Code.

Begin examining an impact fee ordinance as authorized by Article V-A of the Pennsylvania Municipalities Planning. However, it is crucial that this action follow any comprehensive plan and zoning changes.

- Designate traffic impact districts.
- Estimate development from this report’s projection.
- Estimate value of impact fees.

Re-examine sign regulations to differentiate between various sign types and their potential impacts, and generally modernize the ordinance. A discussion of off-premise signs/billboards should be held with the Township solicitor. Pressure for billboards will grow as traffic counts rise.

Short Term – Transportation (2002)

To provide acceptable operating conditions in the existing 2002 condition, the following improvements are needed:

Intersection (2): Route 356 and Route 28 Northbound On-Off Ramp

- Signalization
- Permissive Southbound Left Turn Signal Phasing

Intersection (5): Route 356 and Sarver Road (Route 228)

Buffalo Township Land Use and Transportation Initiative

Study Intersection Index

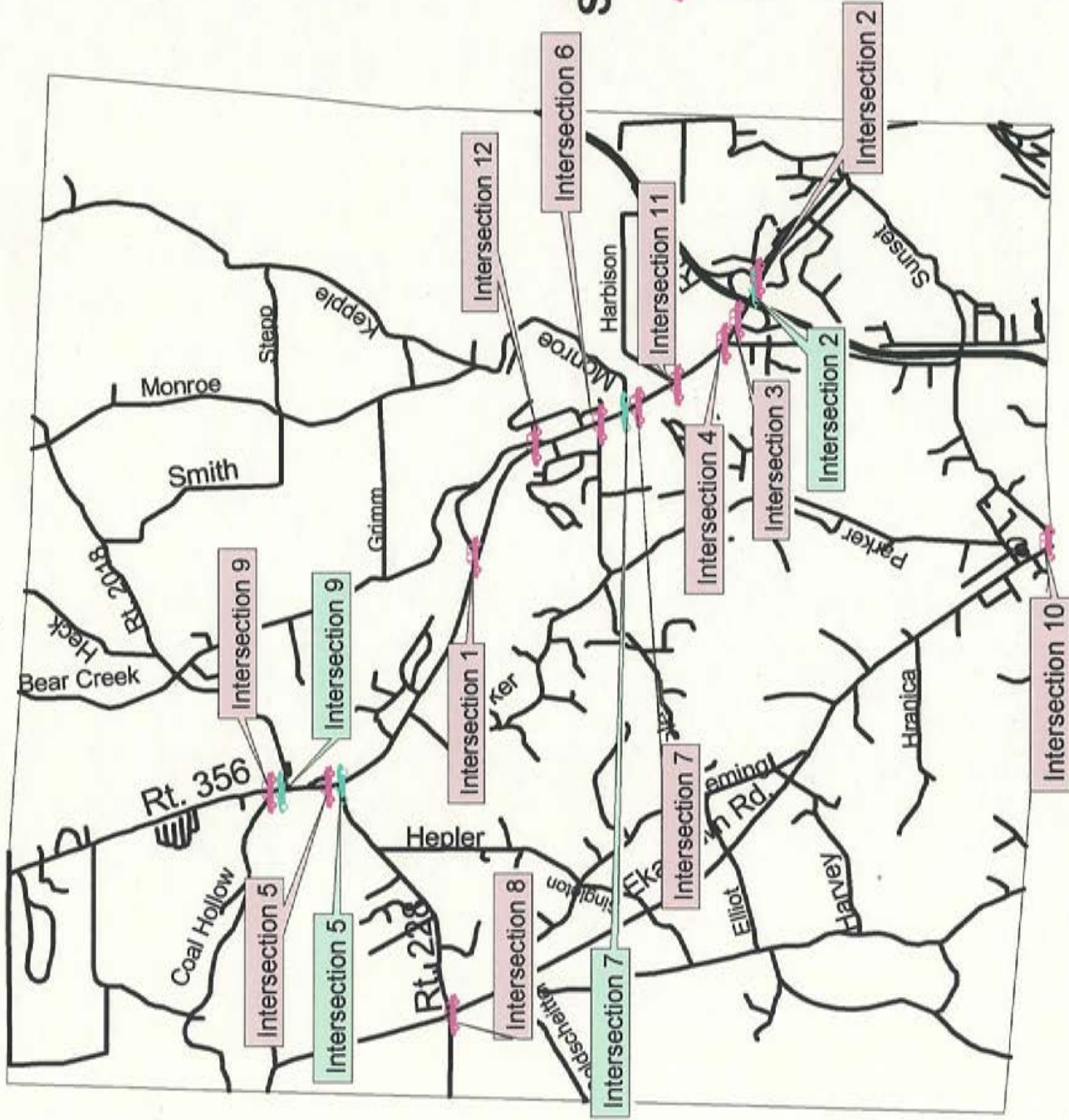
Long Term Transportation
Recommendations 2012



Short Term Transportation
Recommendations 2002



— Roads



The preparation of this report was financed in part through a grant from the:
-United States Department of Transportation
-Pennsylvania Department of Transportation
-Southwestern Pennsylvania Commission

Graney, Grossman, Ray, Colosimo and Associates, Inc.
Project Planners
Herbert, Rowland, and Grubic, Inc.
Transportation Engineers

- Signalization
- Northbound Left Turn Lane on Route 356 (125')
- Protected/Permissive Northbound Left Turn Signal Phasing

Intersection (7): Route 356 and Monroe Road

- Southbound Left Turn Lane on Route 356 (100')

Intersection (9): Route 356 and Sarver Road (Route 2018)

- Southbound Left Turn Lane on Route 356 (75')
(Warranted, but intersection currently operates with acceptable levels of service)

Adopt the Land Use and Transportation Initiative as an amendment to the Buffalo Township Comprehensive Plan. Base rezoning requests on the report.

Long Term – Transportation (2012)

To provide acceptable operating conditions in the projected 2012 condition, the following improvements are needed:

Intersection (1): Route 356 and Younkens Drive

- Restrict westbound left-turn movement from Younkens Drive
(Signalization is not warranted)

Intersection (2): Route 356 and Route 28 Northbound Ramp

- Signalize intersection
- Southbound left-turn movement protected/permitted phasing
- Separate westbound left and right-turn movements

Intersection (3): Route 356 and Route 28 Southbound Ramp

- Signalize intersection

Intersection (4): Route 356 and Silverville Road

- Signalize intersection

- Construct additional northbound thru lane
- Construct additional southbound thru lane

Intersection 5: Route 356 and Sarver Road (S.R. 228)

- Signalize intersection
- Construct southbound right-turn lane
- Construct northbound left-turn lane
- Separate eastbound left and right-turn lanes

Intersection 6: Route 356 and Cole Road

By 2012, a northbound left-turn lane and a southbound left-turn lane will be provided at this intersection.

- Construct eastbound left-turn lane
- Construct westbound left-turn lane

Intersection 7: Route 356 and Monroe Road-Cinema Driveway

By 2012, the Cinema Driveway will be aligned with Monroe Road, a signal will be installed at this intersection, a northbound left-turn lane and southbound left-turn lane will be provided, and the northbound left-turn movement will have advanced phasing.

- Construct additional northbound thru lane
- Construct additional southbound thru lane

Intersection 8: Ekastown Road and Sarver Road (S.R. 228)

- Signalize intersection
- Southbound left-turn movement protected/permitted phasing
- Construct additional northbound thru lane
- Construct northbound left-turn lane
- Construct additional southbound thru lane
- Construct southbound left-turn lane

Intersection 9: Route 356 and Sarver Road (S.R. 2018)-Coal Hollow Road

By 2012, Coal Hollow Road will be realigned with Sarver Road and northbound and southbound left-turn lanes will be provided.

- Signalize intersection
- Construct northbound right-turn lane

Intersection 10: Ekastown Road and Route 908

- Signalize intersection
- Southbound left-turn movement protected/permitted phasing
- Construct southbound left-turn lane
- Construct westbound right-turn lane

Intersection (11): Route 356 and Harbison Road

- Restrict westbound left-turn movement from Harbison Road
- Construct additional northbound thru lane
- Construct additional southbound thru lane
(Signalization is not warranted)

Intersection (12): Route 356 and Bear Creek Road

- Restrict westbound left-turn movement from Bear Creek Road
(Signalization is not warranted)

Appendices

Appendix I– Zoning Amendments List	Page 67
Appendix II – Final Results – A Summary of the Sketch Plan	Page 69
Appendix III – Subdivision Street Classification	Page 76
Appendix IV – Overlay Zone Text	Page 82
Appendix V – Sign Regulations	Page 89

GUIDE TO BUFFALO TOWNSHIP ZONING AMENDMENTS

#1	B-1/B-2 Expansion of Nonconformities
#2	Map Amendment
#3	Map Amendment
#4	Map Amendment
#5	A. 50-Foot Yard for Cul-De-Sacs with 100-Foot Width @ B.L. B. Minimum Lot Size Changes C. Limitations on A-1 District - Creation of New Lots
#6	Occupancy Permits
#7	Map Amendment
#8	Map Amendment
#9	Map Amendment
#10	Map Amendment
#11	Map Amendment
#12	Map Amendment
#13	Adult Entertainment Establishments
#14	Zoning Hearing Board Fees
#15	Map Amendment
#16	Map Amendment
#17	Map Amendment
#18	Map Amendment
#19	Pennsylvania Municipalities Planning Code (MPC) Consistency
#20	Map Amendment
#21	Map Amendment
#22	Sanitary Landfills
#23	Map Amendment
#24	Map Amendment
#25	PRD Regulations/MPC Consistency
#26	Map Amendment
#27	A. Creation of M-2 District B. Deletion of R-2 General Residential C. Temporary Mobile Homes D. 100-Foot R-1 Minimum Lot Width
#28	Map Amendment
#29	Map Amendment
#30	Map Amendment
#31	Map Amendment
#32	Missing or Not Enacted
#33	Map Amendment

#34-#35	Missing or Not Enacted
#36	Parking Space Amendment A. Minimum Size Reduction from 200 Feet to 180 Feet B. 1 Space per 100 Square Feet Area to 1 Space 166-2/3 Floor Area
#37	Map Amendment
#38	Missing or Not Enacted
#39	Telecommunication Facilities Amendment
#40	Map Amendment
#41	Map Amendment
#42	Map Amendment
#43-45	Missing or Not Enacted
#46	Map Amendment
#47-48	Missing or Not Enacted
#49	A. Definition Added B. Public Sewer and Water Required under Table 207 C. Agriculture in R Districts Changed to Conditional Use D. "Bed and Breakfast," "Motel," "Personal Care," and "Veterinarian Office" Moved from Permitted to Conditional Uses. E. "Bakeshop," "Theater," "Flea Market," "Retail Services," "Hospital," and "Bottle Club" Added as New Uses.
#50	Map Amendment
#51	Missing or Not Enacted
#52	Map Amendment
#53	Missing or Not Enacted
#54	Self-Storage/Public Warehousing/Day Care

FINAL RESULTS

Buffalo Township

Transportation and Land Use Initiative

A Summary of the Sketch Plan

Time, money, and resources are always limited. Everyone has to prioritize their efforts. But, if all efforts are spent addressing crises, real change never comes. This sketch plan looks at four inter-related areas and tries to pick activities in each. Some ideas are short term; or things that can be done right away. Others are longer term and will need more effort to implement. Below are projects for a short-term land use plan, a long-term land use plan, and short- and long-term plan for transportation improvements. Your job, as a citizen, is to briefly review and rate these priorities. Please grade them on the following scale:

PRIORITIES

- A - Really Good Idea - Outstanding, try to do ASAP +5
- B - Important, pretty good idea +4
- C - Not Important, maybe a long-term priority 0
- D - Bad idea, don't do it -4
- F - Really Bad Idea, don't do it -5

You need not use every letter. If you like every idea, or no idea, it's okay. However, read carefully because some ideas are mutually exclusive or at least potentially contradictory. Use the blank spaces on page 6 to add your ideas in one sentence or less.

Overall Plan Concepts

SUMMARY OF THE RECOMMENDATION	YOUR GRADE
Overall, I think transportation improvements are crucial, regardless of their impacts on rural character.	20
Overall, I think rural character is the most important planning issue in Buffalo Township, regardless of transportation needs.	50
It is more important to plan a long-term system for major through-traffic	123
It is more important to fix the existing system, and worry about future capacity later.	2

Short-Term Land Use Plan: This component examines ways to use zoning to control access to major roads and issue relative to land use around corridors.

SUMMARY OF THE RECOMMENDATION	YOUR GRADE
Allow residentially zoned homes along major traffic corridors to convert to professional offices, low-impact commercial, or duplexes with screening to buffer from neighboring structures.	98
Allow Agricultural zones along major corridors to subdivide up to new frontage lots but require them to be at least 400 feet wide (2+acres) with maximum driveway spacing.	96
Lands re-zoned to R-1 or R-2 on main corridor must maintain 400 feet lot width, if frontage lots.	92
100-foot building setback from right-of-way on all major corridors.	130
Parking lots should have clear entrance and exit points.	150
New roads should meet at 90-degree intersections with the existing roads.	130

Long-Term Land Use Plan Issues: This component examines the ways to manage growth and development over the long term.

SUMMARY OF THE RECOMMENDATION	YOUR GRADE
Allow development of general area around Sarver Road/Route 356 intersection with standards to ensure quality small town development (smaller lots/sidewalks, design standards, and permanent open space).	93
Allow development of vacant lands around the vicinity of Beale, Doyle, and Parker Roads at densities consistent with current development in neighborhood ($\frac{1}{2}$ - $\frac{3}{4}$ acre minimum density per dwelling unit).	104
Require all new major subdivisions to preserve some permanent open space.	133
Create a new zoning district - RC-Rural Conservation Residential. ($1\frac{1}{2}$ -2 acre, per unit minimum density). Mandatory open space: 50+%.	75
Emphasize development in woodlands to keep rural character and preserve farmland.	43
Emphasize development in farmland to preserve woodland.	26
Try to preserve some of both woodland and farmland in new development.	125
Continue using and developing planning tools to protect rural character.	127
Allow Route 228/Ekastown Road intersection to develop as a planned commercial corridor.	128
Allow current commercial uses on Route 356 to expand with quality standards.	96
Build cooperation agreements with other communities to share regional growth.	108

Short-Term Transportation Plan : This plan component looks at addressing existing deficiencies in the traffic network: either a current

safety issue or improving the quality and convenience of service. As such, these are relatively modest activities.

SUMMARY OF THE RECOMMENDATION	YOUR GRADE
Install traffic signals and protected left-hand turning lanes from Route 228 to Route 356.	142
Install traffic signals at Route 28/356 intersection ramps.	90
Install a left-hand turning lane on Route 356 southbound to Younkens Road.	69
Install a left-hand turning lane on Route 356 southbound to Monroe Road.	107
Install a left-hand turning lane northbound from Route 356 to Route 228.	129

Long-Term Transportation Plan: This component looks at ways to ensure that future road networks can bear the anticipated traffic, and that new road and street networks meet planning goals.

SUMMARY OF THE RECOMMENDATION	YOUR GRADE
As new roads are built in subdivisions, encourage a more interconnected road network (fewer cul-de sacs) so traffic is more evenly spread out.	117
Require sidewalks in all new major subdivisions but allow slightly narrower streets. Over time, try to build the sidewalks into a network of trails and footpaths.	94
Try to route as much through traffic as possible to Route 28 via the Ekastown Road, by improved signage and markers and maintenance priorities.	100
Examine a way to re-route the lower portion of Ekastown Road through the old landfill site, away from homes in the lower part of the Township.	91

SUMMARY OF THE RECOMMENDATION	YOUR GRADE
Expand the number of lanes on Ekastown Road to accommodate future traffic (4-lane/select turning lanes).	109
Examine a way to re-route the eastern portion of Route 228 where it intersects with Route 356 to a position further south to improve the ability of the intersection to carry higher capacities of traffic. Upgrade with more turning lanes and signals.	41
Expand limited portions of Route 356 to 3-lane service with passing lanes and turning lanes as necessary.	81
Expand all of Route 356 to 5-lane capacity.	-56
Examine a new collector road to connect Route 356 and Ekastown Road.	71
Upgrade a Township road, such as Cole or Beale, to serve as a collector between Route 356 and Ekastown Road.	27
Keep as much traffic as possible on Route 356 as either local use or drivers coming to destinations in Buffalo Township.	71
The Township should collect fees for major new development, and bank these fees to pay for transportation improvements wherever they are needed.	78
Fees from developers should be spent on immediate impacts only.	34
Search for a long-term east/west connector road to the north of Buffalo Township.	90
Coordinate with Allegheny County communities for an improved Route 28 interchange.	108

YOUR IDEAS

Traffic light at Monroe Road/Route 356 realign new entrance for 356 theater.
How will people from Winfield Township and north get to Ekastown Road?
Buffer zones so you don't have back-to-back housing development, ex. 400 feet
We need to control the <u>same</u> buildings that are coming into Buffalo, namely banks (too many already).
We need a clothing store for all and a good overall convenient store. Too many offices and gas stations are already here.
Take 228 off at bend at Rosnick Trucking and take it to Coal Hollow and the crossroad of 356, Coal Hollow and Sarver Road.
New housing plans minimum of 1 acre lots - nothing less.
Improvement in transportation should be shared with <u>all</u> surrounding townships and/or counties.
Preserve rural character with larger lot sizes and more open space within developments.
New road from turn on 228 at Coal Hollow Road angled out to 356.
New road from Old Hi-Ho Stable on bend on 228 to intersection with 356.
Road widths should not be narrow. All roads should be wide as possible.
Need paved berms along roads like Route 356 and Ekastown Road.
Developers impact fees are needed to help fund infrastructure.
Do <u>not</u> install a traffic light unless left turn lanes and leading green lights to permit left turns are provided.
Require all new subdivisions over a certain limit (30 units for example) to have sidewalks.
Require all large subdivision (over 80 homes) to provide a playground/picnic area so families and kids have a place to play.
We definitely need to do something with 356. Get after the State.

Correct, or enforce, speed limit on Parker Road, especially from Cole Road to Ekastown Road.

Route 356/Sarver Road needs something done - perhaps some turning lanes.

Street and Density Standards Recommended for Inclusion in the Township
Subdivision and Land Development Ordinance

1. Street Classification and Design Standards

Street widths shall be based upon the anticipated daily traffic volume, based on Table A. Standards for local streets shall be further based upon one of three density-based formulas.

a. Table A

Street Type	Daily Traffic Volume
Lane*	0-40
Local	0-1,000
Collector	1,000+

*Private street. Must be accompanied by evidence that there will be no further subdivision to create additional density, and there is no public interest in such a street being accepted by the Township.

These will be based upon an ADT of 10 vehicles per dwelling unit per day.

b. Subdivision Standards for Local Streets: Street standards shall be based on one of three types of subdivisions:

Type I Subdivision – A subdivision in which the average lot size is greater than one (1) acre or greater

Type II Subdivision – A subdivision in which the average lot size between twenty-five thousand (25,000) square feet and one (1) acre.

Type III Subdivision – Any subdivision or residential land development where the average dwelling density is one (1) dwelling unit for each twenty-five thousand (25,000) square feet or greater.

c. Street Design Standards

Classification	Minimum Cartway Width	Minimum Right of Way	Maximum Dead-End Street	Minimum Dead-End Street Turning Radius	Sidewalks	Curbing
Private	16 Feet	40 Feet	Must service no more than 4 lots	65 Feet Unpaved Center (70 Feet R.O.W.)	Not Required	Not Required
Local Type I	20 Feet No Curbs 22 Feet Curbed	50 Feet	Must Service No more than 24 lots	65 Feet Unpaved Center (70 Feet R.O.W.)	Not Required	Not Required
Local Type II	22 Feet No Curbs 24 Feet Curbed	50 Feet	Must Service No more than 24 lots	45 Feet (50 Feet R.O.W.)	Not Required	Not Required
Local Type III	28 Feet	50 Feet	Must Service No more than 24 lots	45 Feet (50 Feet R.O.W.)	Required	Required
Collector	24 Feet No Curbs 28 Feet Curbed	60 Feet	Not Permitted	Not Permitted	Required If Servicing Type II or III Local Street	Required If Servicing Type III Local Street
Industrial/Commercial	24 Feet No Curbs 28 Feet Curbed	60 Feet	1,000 Feet	70 Feet Paved Center	Not Required	Not Required
Marginal Access	22 Feet No Curbs 24 Feet Curbed	50 Feet	Not Permitted	Not Permitted	Not Required	Not Required

d. The Planning Commission may require additional right-of-way or cartway width if unique safety or traffic flow considerations make such standards necessary.

e. Arterial streets shall meet applicable PennDOT standards.

2. Dead-End Streets

Dead end streets shall be permitted only where the physical configuration of the property such as a narrow tract, or documented environmentally sensitive areas prevent any other road configuration. In certain circumstances, developers may need to reduce the number of lots in order to avoid unnecessary dead end streets. No street

shall terminate without a cul-de-sac, or a T or Y-shaped turnaround. "T" or "Y" turnarounds must service no more than six (6) lots.

- a. The total traffic volume on a cul-de-sac street shall not exceed 250 ADT.
- b. Dead-end streets, permanently designed as such, shall not exceed one thousand (1,000) feet in length, unless topography factors justify a greater distance or whereby intersecting side streets provide additional access to this dead-end street. The length of a dead-end street shall be measured from its entrance to its termination. If a cul-de-sac is so used, the length shall be the furthermore end of the turnaround cartway.
- c. Each arm of a "T" or "Y" turnaround shall have a length of twenty-five (25) feet.
- d. Unless future extension is clearly impractical or undesirable, the turnaround right-of-way shall be placed adjacent to property line and right-of-way of the same width as the street shall be carried to the property line such a way as to permit future extension of the street into the adjoining tract.

3. Industrial Streets

- a. An industrial structure which is twenty thousand (20,000) square feet or larger with one (1) or more loading docks shall have access to a collector or arterial street. The street providing access to such a facility shall be constructed to the specifications of an industrial street as established in this Ordinance.

4. Street Alignment and Grades

Design Criteria for Streets¹ (not to include Intersections).

Type of Street					
	Local	Collector	Industrial	Dead End⁴	Private
Maximum Grade ²	8.0%	6.0%	6.0%	6.0%	8.0%
Minimum Grades ⁵	1.0%	1.0%	1.0%	1.0%	1.0%
Minimum Centerline Radius	150 feet	300 feet	300 feet	150 feet	150 feet
Minimum Sight Distance ³	150 feet	250 feet	250 feet	150 feet	150 feet
Tangent between Curves	100 feet	100 feet	150 feet	N.A.	100 feet

¹ For Arterial Roads, PennDOT standards will apply.

² Grades in excess of the allowable percentage may be approved by the County Engineer where it is clear that it is necessary and that no traffic hazard is or will be created thereby.

- 3 Site distance shall be measured along the centerline of the street between points where a driver's eyes at 3' 6" in height can see an object 2' high.
- 4 Dead-end streets include is the entire street not merely the vehicular turn-around.
- 5 Modifications to the minimum grade must be approved by the County Engineer.
 - a. Horizontal curves shall be laid on all deflecting angles along the centerline of streets, and the degree of curvature shall be set at least to assure the required sight distance.
 - b. Vertical curves shall be used in changes of grade exceeding one percent (1%) and shall be designed for maximum visibility.

5. Street Intersections

- a. Streets shall be laid out to intersect as nearly as possible at right angles. No street shall intersect another at an angle of less than sixty (60) degrees.
- b. Multiple intersections involving the junction of more than two (2) streets shall be avoided. Where this proves impossible, a modification of this provision shall be sought.
- c. Where the grade of any street, at the approach to an intersection exceeds seven percent (7%), a leveling area shall be provided having not greater than four percent (4%) grades for a distance of fifty (50) feet measured from the nearest right-of-way line of the intersecting street. The grade at actual intersection shall not exceed two percent (2%) in any direction.
- d. Clear sight triangles of seventy-five (75) feet measured along street center lines from their point of junction shall be provided at all intersections and no structures or vegetation higher than three (3) feet shall be permitted within such triangles. The three (3) foot measurement shall begin from the elevation of the road, where the topography within the triangle is higher than the road, the following standards shall be used for measurement:

Topography Elevation	Allowable Structure or Vegetation Height
1 foot higher than the road	2 feet
2 feet higher than the road	1 foot
3 feet or more higher than the road	No vegetation or structure shall be permitted within the sight triangle.

- e. To the fullest extent possible, intersections with arterial streets shall be located not less than five hundred (500) feet apart, measured from the center line to center line.

- f. Intersecting streets, shall be separated by three hundred fifty (350) feet or more, measured between their center lines along the centerline of the intersected street
- g. Residential driveways shall be at least thirty (30) feet from adjacent driveways on the same side of the street and at least fifty (50) feet from the centerline of an intersecting street. For industrial development there shall be at least seventy (70) feet between driveways on the same side of the street, and at least ninety (90) feet between the closest intersection of any industrial driveway. For commercial development there shall be at least fifty (50) feet between driveways on the same side of the street and at least seventy (70) feet between the closest radius of the driveway and the intersecting street.

6. LOT AND DENSITY STANDARDS:

To provide for sufficient light, air, access, orderly design and freedom from hydrologic, geologic or topographic hazards, all subdivisions shall be designed in conformance with this Section to determine maximum residential density. The number of dwelling units permitted in a subdivision shall be calculated by dividing the net area, after deducting non-buildable and constrained land in conformance with this Section, by the allowable lot size specified in Section 402.

Non-Buildable Areas Deduction: The following areas are regarded as non-buildable areas and shall not be considered in calculations of minimum lot size, density or dimensions. This shall be calculated by subtracting the acreage subject to the following constraints from total acreage of the tract.

- 1. All lands within the rights-of-way of planned or existing public streets or highways, or within the rights-of-way of existing or proposed overhead utility lines.
- 2. All land in designated floodplain floodway.
- 3. All land in designated wetlands or open water.

Constrained Lands Deduction: Due to geologic, topographic and hydrologic hazards, the following calculations will be made to constrained lands. The result of the multiplication shall be then subtracted from the total acreage of the property.

- 1. Floodplains: Multiply the non-floodway portion of the 100-year floodplain by .50. Where floodways are not designated, the multiplier shall be .75.
- 2. Steep Slopes: Multiply the acreage of land with natural ground slopes exceeding twenty-five percent (25%) by .80.

3. Moderately Steep Slopes: Multiply the acreage of land with natural ground slopes between fifteen percent (15%) and twenty-five percent (25%) by .60.

The total number of dwelling units (or lots in the case of single-family development) shall be determined by dividing the net lot area (total acreage less non-buildable and constrained lands) by the minimum lot size for the Zoning District in which the Subdivision is located.

ARTICLE 5A OVERLAY DISTRICTS

In the development of this Ordinance, the Township Planning Commission, Board of Supervisors and residents have determined that additional regulations are necessary in certain areas to provide for the health, safety and general welfare of those living within the Township, as well as those who may be passing through the Township. For this purpose, an overlay district is hereby created: The A-2 Access Management Overlay Zone. Where overlay districts are created, the underlying zone will determine the permitted uses; the applicable overlay district regulations will establish additional standards and all development must conform to the requirements of both districts or the more restrictive of the two.

501A COMMUNITY DEVELOPMENT GOALS AND OBJECTIVES

501A.1 To prevent the encroachment of future development upon existing rights-of-way for major transportation corridors within the Township.

501A.2 To prevent the enjoyment of use by future development which may be comprised through proximity to increased traffic on major corridors.

501A.3 To foster greater interconnectivity between developments and facilitate the separation of local destination traffic from traffic passing through the Township.

501A.4 To reduce the proliferation of access points on to principal roads in the Township.

501A.5 To protect the capability of principal roads to conduct traffic smoothly and efficiently.

501A.6 To implement the Buffalo Township Comprehensive Plan and associated studies, especially the Buffalo Township Land Use and Transportation initiative.

502A SUPPLEMENTAL OFFICIAL ZONING MAP

Pursuant to the adoption of these Regulations, Supplemental Official Zoning Maps depicting the extent of the A-2 Access Management Overlay District are hereby adopted.

503A STANDARDS FOR ALL DISTRICTS AND USES WITHIN THE A-2 ACCESS MANAGEMENT OVERLAY ZONE

503A.1 Minimum front yard setback for all buildings and parking areas from principal road right-of-way shall be one hundred (100) feet unless specifically excepted by 503A.2 or specific conditional use standards.

503A.2 Setback Exceptions: The following uses may be exception from setback requirements in 503A.2 if they meet acceptable performance standards:

Use	Standard
Agriculture	The Agriculture use includes no permanent building or structure affixed permanently, except for fences which may encroach to 25 feet of right-of-way.
Signs	Signs meeting all other Township standards may encroach to 25 feet of front yard setback from right-of-way.
Fencing	25 feet of front yard setback from right-of-way.
Parking Lots	Subject to 503A.7.

503A.3 Nonconforming Lots: Lots predating the effective date of this Ordinance may be exempted from rear and side yard requirements in order to meet front yard setbacks if they lack sufficient depth to maintain all setbacks. However, in doing so, the Zoning Officer may not reduce side or rear yard requirements by more than fifty percent (50%), and all coverage standards shall be maintained.

503A.4 Corner Lots: Lots which abut a principal road, as defined by this Ordinance, and another public road or street, must design all access to connect to the road or street not designated as a principal road.

503A.5 Access Roads, Driveways and Local Streets: All lots are limited to one (1) access point or connection to a principal road. Additional access points shall only be permitted where as a Conditional Accessory Use, provided that the developer can present a traffic study illustrating how the additional access point meets Sections 501A.3 and 501A.4. All new access roads, driveways or local streets must conform to the performance standards of this Article.

- A. Where access roads, driveways and new local streets access a principal road which has another public road, street or parking area for more than ten (10) vehicles on the opposite side of said principal road, the point of access shall be coordinated to directly coincide with the pre-existing access point.
- B. New access roads, driveways or local streets shall meet principal streets at right angles.
- C. New access roads, driveways and new local streets shall provide turn lanes based upon anticipated average daily traffic (ADT).

ADT	Turn Lanes Required
Less than 100 Vehicles	None required
100 to 500 Vehicles	One turn lane based upon principal anticipated flow direction
500+ Vehicles	Turn lanes as warranted by Township Engineer

D. Connection Spacing: New access roads, driveways and new local streets shall maximize distance from all previous connections on the same side of a principal road. At a minimum, connections shall be placed at least three hundred (300) feet from other connections.

503A.6 Corner Clearance: New corner lots created after the effective date of this Ordinance shall provide minimum frontage for the district in which the lot is located on both streets in which the lot fronts. Access drives shall be placed to maintain maximum distance from the intersection. No access drive shall be nearer than one hundred (100) feet from an intersection.

503A.7 Parking Lots: Parking lots or parking areas designed for greater than fifty (50) vehicles or of a surface area greater than forty thousand (40,000) square feet which directly accesses a principal road shall be a conditional use subject to the following standards: Smaller parking lots shall be a permitted accessory use, but shall present evidence to the Zoning Officer that the following standards are maintained.

- A. Parking lots may maintain a front yard setback of thirty-five (35) feet from the principal road right-of-way, provided:
 1. A continuous service drive or cross-access corridor right-of-way shall be reserved.
 2. An agreement is presented allowing neighboring properties to utilize this cross access or service drive to access principal roads.
 3. If abutting properties are developed pursuant to 503A.7.A.1 and 2, present a plan for shared access with such properties. If subsequent development presents the Zoning Officer with a joint access plan that does not increase access points to a principal road, parking lots of any size may be regarded as a permitted, rather than a conditional use.
 4. Provide street stubs utilizing a temporary "T" turnaround when required by the Township Board of Supervisors.

5. The number of required parking spaces may be reduced by fifteen percent (15%) if shared pedestrian access between abutting developments is provided.
6. Parking lots shall maintain a minimum of eight percent (8%) of interior surface area in permeable surfaces to minimize stormwater runoff. Permeable surfaces shall be suitably landscaped to prevent erosion and sedimentation.
7. Parking lot frontage shall be curbed or utilize a landscaped buffer at least five (5) feet in width to prevent access to principal roads by any means other than designated access points.

B. Nonconforming parking lots in which a change of use or expansion is envisioned shall meet 503A.7.A.7 prior to approval by the Township.

504A STANDARDS SPECIFIC TO THE A-1 AGRICULTURAL DISTRICT

504A.1 In addition to general standards in 501A and 503A, the following standards shall also apply:

- A. Minimum lot width for new lots created which front a principal road shall be four hundred (400) feet.
- B. Where more than one new lot fronts upon and maintains an access point to a principal road, driveway spacing shall be configured to provide maximum distance between individual lots.

505A STANDARDS SPECIFIC TO THE R-1 AND R-2 RESIDENCE DISTRICTS

505A.1 Conditional Use Standards for the Conversion of Single-Family Dwellings to Other Uses: Single-family dwellings may, by conditional use, be converted to the following uses as defined by the Township Zoning Ordinance; offices, apartment dwellings for up to two families, public buildings, personal care homes, provided:

- A. The single-family dwelling has access to only a principal road, or is a corner lot, facing a principal road.
- B. The conversion will not entail an expansion of the structure greater than twenty-five percent (25%) of floor area.

- C. Side and rear yards will be buffered by a row of screen plantings or fence of at least six (6) feet in height.
- D. Evidence is presented that there is no deed covenant preventing the use.
- E. The developer agrees to reserve front or side yard right-of-way to allow shared access with abutting properties which may be converted or developed in the future. A plan shall be submitted illustrating how such access could be developed, and a willingness to develop shared entrances with neighboring properties.
- F. If abutting properties have been developed pursuant to 505A.1.D, subsequent conversions shall present a plan for shared access with such properties.

506A. SPECIFIC STANDARDS FOR B-1/B-2 BUSINESS DISTRICTS

506A.1 Because the Business Districts are established specifically to provide commercial development in a semi-rural, high-quality setting, the following development standards must be observed by all commercial or retail uses.

- A. All property lines which abut other districts or pre-existing residential uses shall maintain both of the following buffer yard types:
 - 1. A fifty- (50) foot wide buffer yard of vegetation sufficient to provide opaque screening during six (6) months of the year. This buffer yard shall maintain the existing natural vegetation unless insufficient for screening or of species generally recognized as inferior for shade, erosion control, or screening. If deemed so, the developer shall maintain a planting standard of eight (8) deciduous trees and sixteen (16) coniferous trees per each five thousand (5,000) square feet of buffer yard. This buffer yard shall be in addition to any other yard requirements listed in Table 307.1.
 - 2. A screening yard of spruce, planted to the following standards: An initial row of trees to follow a lineal centerline with additional rows planted at oblique angles on each side of the centerline row, sufficient to provide complete and constant opaque screening from the time of planting. This screen of plantings shall be situated at the interior edge of the natural vegetation buffer yard and may be included in calculations of required yard areas.

- B. Planting Standards: At the time of planting, all coniferous trees shall be a minimum of six (6) feet in height, as measured from the ground. Hardwood trees shall be a minimum of twelve (12) feet in height, as measured from the ground. The zoning officer may inspect plantings as necessary. Trees which have died shall be replaced as needed.
- C. Lighting: Any lighting used to illuminate buildings, parking or loading areas shall be arranged to reflect the light away from the adjoining premises of any residential district or use.
- D. Retail businesses of forty thousand (40,000) square feet or greater, and shopping centers shall be a conditional use. The application may be combined where necessary to conditional use parking standards. As a part of conditional use approval, the developer shall agree to permit the interconnection of future abutting parking lots to his property and make such necessary improvements.

507A. SPECIFIC STANDARDS FOR M-1/M-2 MANUFACTURING DISTRICTS

507A.1 Manufacturing uses can affect other uses due to periodic intensity of truck traffic. New uses which involve truck traffic in excess of low-volume driveway permit standards

- A. Provide buffering which meets Section 506A.1, A through C where similar conditions exist.
- B. Show evidence that parking areas loading berths and access drives have adequate standards of throat length and turning radii for truck traffic.
- C. Maximum separation of truck, pedestrian and other vehicular traffic in internal access.

DEFINITIONS

Access Connection – Any driveway, street, turnout or other means of providing for the movement of vehicles to or from the public roadway system.

Access Management – The process of providing and managing access to land development while preserving the regional flow of traffic in terms of safety, capacity and speed.

Corner Clearance – The distance from an intersection of a public or private road to the nearest access connection, measured from the closest edge of the pavement of the intersecting road to the closest edge of the pavement of the connection along the traveled way.

Cross Access – A service drive providing vehicular access between two or more contiguous sites so the driver need not enter the public street system.

Parking Area – Any public or private area, under or outside of a building or structure, designed and used for parking motor vehicles including parking lots, garages, private driveways and legally designated areas of public streets.

Parking Lot – An off-street, ground-level open area, usually improved, for the temporary storage of motor vehicles.

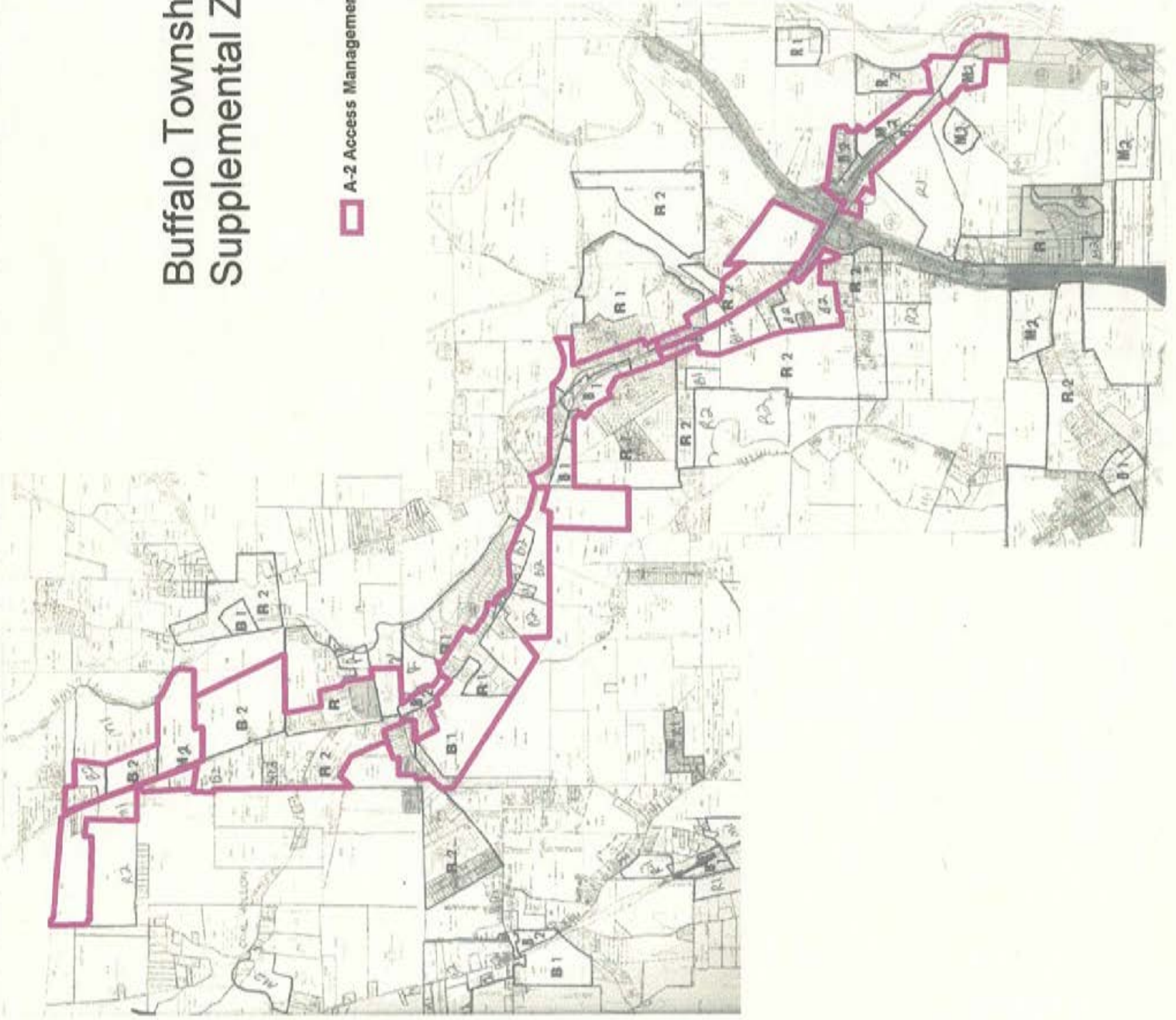
Parking Space – A space for the parking of a motor vehicle within a public or private parking area.

Principal Roads – Roads designated as key access management areas by the Township, particularly PA Route 356, PA Route 228 and the Ekastown Road.

Overlay Zone – A zoning district that encompasses one or more underlying zones and that imposes additional requirements above that required by the underlying zone.

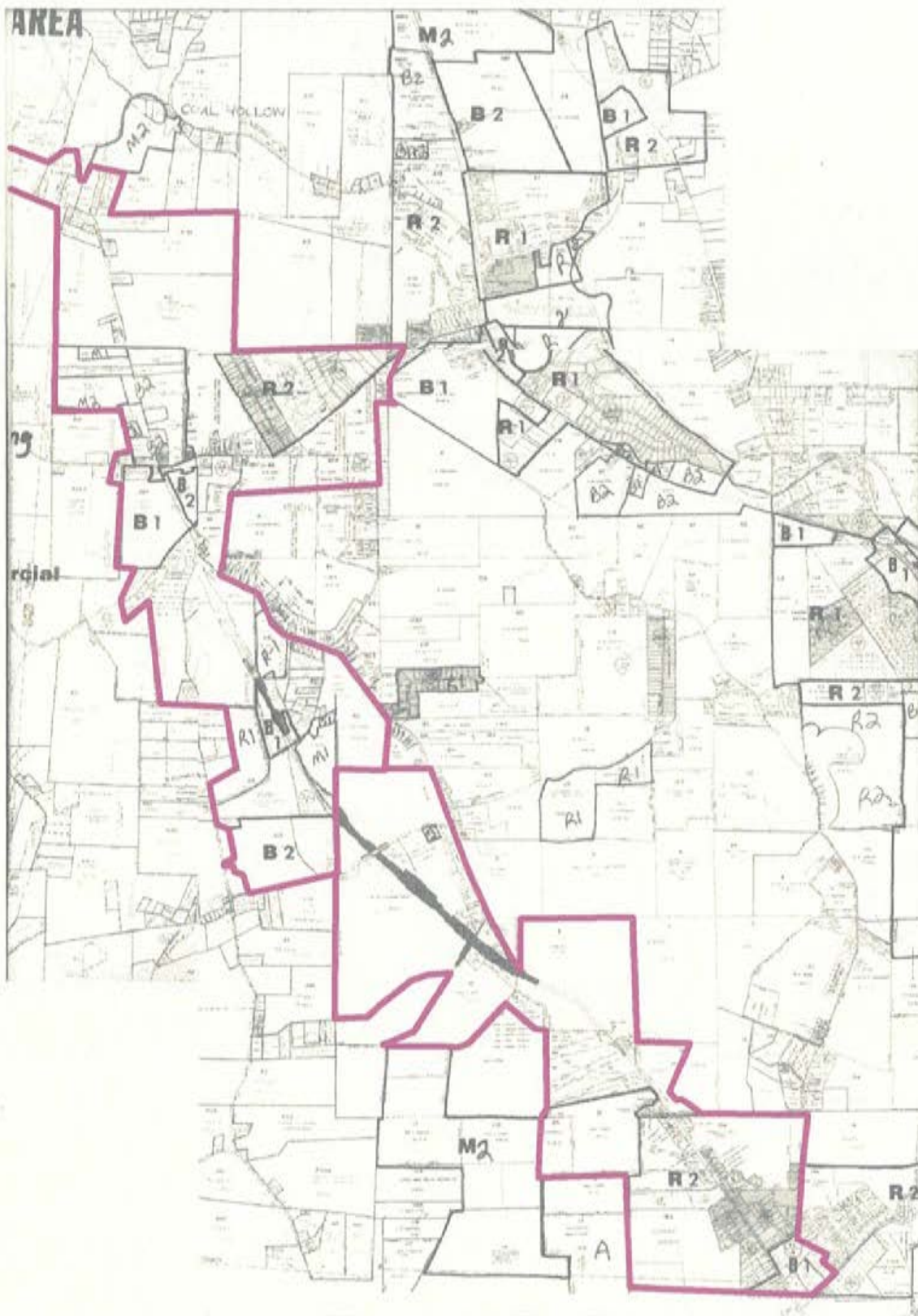
Buffalo Township Supplemental Zoning Map 1

 A-2 Access Management Overlay District



Buffalo Township Supplemental Zoning Map 2

 A-2 access management overlay zone



ARTICLE 5B – SIGNS

SECTION 501B. COMMUNITY DEVELOPMENT OBJECTIVES

SECTION 502B. SIGN CLASSIFICATIONS: PERMITTED

SECTION 503B. SIGN CLASSIFICATIONS: PROHIBITED

SECTION 504B. BILLBOARDS

SECTION 505B. SIGN CLASSIFICATIONS: EXEMPTED

SECTION 506B. GENERAL DESIGN AND CONSTRUCTION STANDARDS

SECTION 507B. ADMINISTRATION AND ENFORCEMENT

SECTION 508B. SCENIC ROAD DESIGNATION

SECTION 509B. SIGN DEFINITIONS

SECTION 501B. COMMUNITY DEVELOPMENT OBJECTIVES

- a. To preserve and promote the public health, safety, and welfare of the citizens of Buffalo Township;
- b. To afford the business community equal and fair opportunity to advertise and promote its products and services without discrimination;
- c. To maintain and enhance the visual environment, and to preserve the right of the citizens to enjoy the Township's scenic beauty;
- d. To improve pedestrian and traffic safety;
- e. To minimize the possible adverse effect of signs on nearby public and private property;
- f. To enable the fair and consistent enforcement of these sign restrictions.

This sign Ordinance is adopted under the Zoning Authority of Township of Buffalo in furtherance of the more general purposes set forth in the Zoning Ordinance.

SECTION 502B. SIGN CLASSIFICATIONS: PERMITTED

Upon the adoption of this Ordinance, it shall be unlawful and a violation of this Ordinance for any person to erect, construct, paint, alter, relocate, reconstruct, display, or maintain or cause to be erected, constructed, displayed or maintained within Township of Buffalo any sign (except as defined in Section 6) without first having obtained a permit from the Zoning Officer. A table summarizing the sign specifications outlined here is attached as an appendix to this document.

- a. R-1 and R-2 Residential Districts
 - i. For each use, including residential uses and home occupation, one (1) non-illuminated wall sign not exceeding three (3) square feet in size.

- ii. For single-family subdivisions and multi-family complexes, including mobile home parks, one (1) monument sign per street frontage, not to exceed thirty-two (32) square feet in sign area per sign or six (6) feet in height.
 - iii. For permitted nonresidential, non-commercial uses, including churches and synagogues, one (1) freestanding monument sign not to exceed thirty-two (32) square feet in sign area or five (5) feet in height and one (1) wall sign (with or without border), as large as one (1) square foot per two (2) lineal feet of building frontage, to a maximum of thirty-two (32) square feet.
 - iv. Such signs may be located anywhere in required yard areas.
- b. C-1/C-2 Commercial Districts and M-1 and M-2 Manufacturing Districts: Signage in this district, typically from auto-oriented commercial facilities, should be legible while avoiding sign clutter.
- i. Types of Signs:
 - 1) WALL SIGNS (with or without border) as large as one (1) square foot per two (2) linear ft. of building frontage or a maximum of sixty-four (64) square feet, whichever is less.
 - 2) FREESTANDING SIGNS only for establishments that are set back from the property line by forty (40) feet or more.
 - a) MONUMENT SIGNS as large as thirty-two (32) square feet in sign area with a height maximum of six (6) feet from the ground (including the base) to the top of the sign. The sign must be set back ten (10) feet or more from the property line.
 - b) POLE SIGNS as large as twenty (20) square feet in sign area, with a height maximum of twelve (12) feet from the ground to the top of the sign. The sign must be set back fifteen (15) feet or more from the property line.
 - 3) PROJECTING SIGNS as large as sixteen (16) square feet in sign area; maximum projection of six (6) feet from the building face; minimum clearance from the ground eight (8) feet and maximum clearance twelve (12) feet. However, no such signs shall project past curbs or over parking or vehicular traffic lanes.

- 4) WINDOW SIGNS no more than twenty percent (20%) of the total window area of the principal facade. Lettering up to twelve (12) inches high.
 - 5) AWNING SIGNS projecting at least five (5) feet into the sidewalk but no more than seven (7) feet. Lettering up to ten (10) inches in height and on the valance only. The extent of the lettering may cover a maximum of eight (8) feet in width of fifty percent (50%) of the valance width, whichever is less.
- ii. Number: Each business may not display more than three (3) signs. Each business site may display only one (1) freestanding sign, which is included in the three permitted signs. In no case shall any multi-tenant building or shopping center have more than one (1) freestanding sign.
 - iii. Location: Signs shall be located where they can be most easily read, thus reducing the size needed for legibility.
- c. Scenic Roadside: The most important goal in this area is to maintain scenic character and open space. The significant historic architecture often found within these districts and surrounding rural landscape contributes to the beauty and the character of the scenic roadside. The style, location, design, and use of materials for signs in this district should be consistent with the rural, scenic character of the roadside.
- i. Types of Signs:
 - 1) WALL SIGNS (with or without border) as large as one (1) square foot per three (3) linear feet of building frontage or a maximum of thirty (30) square feet, whichever is less.
 - 2) FREESTANDING SIGNS only for establishments that are set back from the property line by twenty-five (25) feet or more.
 - a) MONUMENT SIGNS as large as twenty (20) square feet in sign area with a height maximum of five (5) feet from the ground (including the base) to the top of the sign. The sign must be set back ten (10) feet or more from the property line.
 - b) POLE SIGNS are not permitted in "scenic roadside" corridors.
 - 3) PROJECTING SIGNS as large as ten (10) square feet in sign area; maximum projection of one (1) foot from the building face;

minimum clearance from the ground eight (8) feet and maximum clearance ten (10) feet.

- 4) WINDOW SIGNS no more than twenty percent (20%) of the total window area of the principal facade. Lettering up to ten (10) inches high.
- 5) AWNING OR MARQUEE SIGNS projecting at least five (5) feet but no more than seven (7) feet. Lettering up to eight (8) inches in height and (for awnings) on the valance only. The extent of the lettering may cover a maximum of eight (8) feet in width or fifty percent (50%) of the valance width, whichever is less. Minimum clearance of ten (10) feet from the ground.

ii. Number: Each business may not display more than two (2) signs. Each business site containing more than one business may display a maximum of one (1) freestanding sign.

iii. Materials: Signs in this district shall be of wood or metal.

iv. Location: As in Commercial Districts, signs shall be placed in clear view of traffic to minimize their required size.

- 1) Signs posted on the upper facades of the buildings shall not cover more than twenty percent (20%) of the total square footage of the upper facade facing the street.
- 2) Signs shall not obscure important architectural details or features such as windows, transoms, panels, sills, moldings, and cornices.
- 3) Signs on adjacent storefronts within the same building shall be coordinated in height and proportion, and should be encouraged to use the same signing format.

v. Size: Wall signs shall cover no more than twenty-five percent (25%) of the total square footage of the facades to which they are affixed.

vi. Special review of sign placement and size may be required to protect documented scenic vistas.

d. A - Agricultural: Sign regulations in this district recognize the mixed-use character of the district, while protecting residential uses and features:

- i. For each use, including residential uses, agriculture and home occupations, one (1) non-illuminated wall or freestanding sign not exceeding four (4) feet in size.

- ii. For single-family subdivisions and multi-family complexes, including mobile home parks, one (1) monument sign per street frontage, not to exceed thirty-two (32) square feet in sign area per sign or six (6) feet in height.
- iii. For permitted nonresidential, noncommercial uses, including churches and synagogues, one (1) freestanding monument sign not to exceed thirty-two (32) square feet in sign area or five (5) feet in height and one (1) wall sign (with or without border), as large as one (1) square foot per two (2) lineal feet of building frontage, to a maximum of thirty-two (32) square feet. Such signs may be located anywhere within required yard areas.
- iv. Business uses in the district may display:

4. Types of Signs:

- a) WALL SIGNS (with or without border) as large as one (1) square foot per three (3) linear feet of building frontage or a maximum of thirty (30) square feet, whichever is less.
- b) FREESTANDING SIGNS only for establishments that are set back from the property line by twenty-five (25) feet or more.
 - 1) MONUMENT SIGNS as large as twenty (20) square feet in sign area with a height maximum of five (5) feet from the ground (including the base) to the top of the sign. The sign must be set back ten (10) feet or more from the property line.
 - 2) POLE SIGNS as large as twenty (20) square feet in sign area, with a height maximum of twelve (12) feet from the ground to the top of the sign.
- c) PROJECTING SIGNS as large as ten (10) square feet in sign area; maximum projection of one (1) foot from the building face; minimum clearance from the ground eight (8) feet and maximum clearance ten (10) feet.
- d) WINDOW SIGNS no more than twenty percent (20%) of the total window area of the principal facade. Lettering up to ten (10) inches high.
- e) AWNING OR MARQUEE SIGNS projecting at least five (5) feet but no more than seven (7) feet. Lettering up to eight (8) inches in height and (for awnings) on the valance only. The extent of the lettering may cover a maximum of eight (8) feet in width or fifty percent (50%) of the valance

width, whichever is less. Minimum clearance of ten (10) feet from the ground.

- iii. Number: Each use may not display more than three (3) signs, with a maximum of one (1) freestanding sign. Each business site containing more than one business may display a maximum of one (1) freestanding sign.
- iv. Location signs may be located anywhere within required setbacks.
- e. Illumination Requirements Applicable to All Districts:
 - i. To prevent glare for vehicular traffic, only white light may be used to illuminate a sign, except in the case of neon, which is only permitted for window signs.
 - ii. The illumination from any sign may not cause any reflection or glare upon a public street, highway, sidewalk, or adjacent property. To avoid extreme glare, all internally illuminated or backlit signs shall minimize clear or white areas to the maximum extent possible.
 - iii. Exposed lighting sources such as bulbs, tubes, and the like are prohibited. All external sources of illumination must be hidden from view by shrubbery or some other permitted material.
 - iv. With the exception of downtown areas, no exterior signs on any building or premises shall be illuminated after 12:00 midnight, except on those places of business which shall remain open after midnight, and they shall be extinguished at the time of closing such business.

SECTION 503B. SIGN CLASSIFICATIONS: PROHIBITED

All signs not expressly permitted under this Ordinance or exempt from regulation hereunder, in accordance with this Ordinance are prohibited in Buffalo Township. Such signs include, but are not limited to:

- a. Any sign attached to any tree, utility pole or painted upon or otherwise directly affixed to any rock, ledge or other natural feature.
- b. No sign shall be erected:
 - i. In the public right-of-way, except for those placed by an authorized governmental agency;
 - ii. At any location where, by reason of position, shape, wording or color, it interferes with or obstructs the view of pedestrian or vehicular traffic;

- iii. Which may be confused with any authorized traffic sign, signal or device;
- iv. Above the roof line;
- v. Unless specifically permitted, all signs shall conform to the zoning setbacks for the district in which the use is located.
- vi. Any outdoor sign which advertises, identifies or pertains to any activity no longer in existence shall be removed by its owner or persons otherwise responsible within sixty (60) days from the time the activity ceases. This provision does not apply to seasonal activities during the periods in which such businesses are closed.
- vii. Signs employing neon [except as permitted under illumination requirements for window signs, mercury vapor, low pressure and high pressure sodium, and metal halide lighting;
- viii. Signs with visible moving, revolving, or rotating parts or visible mechanical movement of any description or other apparent visible movement achieved by electrical, electronic, or mechanical means, except for traditional barber poles.
- ix. Signs with ~~optical~~ optical illusion of movement by means of a design that presents a pattern capable of giving the illusion of motion or changing of copy.
- x. Signs with illumination that flash, blink, flicker, or vary in intensity or color, except for time-temperature-date signs.
- xi. Signs, commonly referred to as wind signs, consisting of one or more banners, flags, pennants, ribbons, spinners, streamers, or captive balloons, or other objects or material fastened in such a manner as to move upon being subjected to pressure by wind.
- xii. Signs on a vehicle not regularly used in the conduct of the business advertised on the vehicle.
- xiii. Plastic panel rear lighted signs, except in Roadside Commercial Districts.
- xiv. Signs placed on bus shelters, bus benches, or waste receptacles.
- xv. Signs posted or painted on roofs, dormers, and balconies; and

SECTION 504B. BILLBOARDS: Billboards are permitted as a conditional use in the A-1 Agricultural District provided:

- a. Such signs shall not be placed within one hundred fifty (150) feet of another on the same side of the road or one hundred (100) square feet of another on the opposite side of a road.
- b. Such signs shall not be placed within two hundred fifty (250) feet of any residence, church, school or similar edifice.
- c. Such signs shall not be placed within two hundred fifty (250) feet of any road intersection, or at a curve or at any place where vehicular line-of-sight could be partially or completely obstructed.
- d. Such signs shall not exceed one hundred (100) square feet when viewed from its widest silhouette.
- e. Such signs are not visible from a road designated as scenic in Section 508B.

SECTION 505B. SIGN CLASSIFICATIONS: EXEMPTED

The following signs do not require permits or fee payment but must meet the other requirements of the Ordinance:

- a. Traffic control signs;
- b. Traffic flow informational signs;
- c. House addresses, family name signs, decorative flags, no trespassing and similar signs;
- d. Signs on vehicles regularly and customarily used to transport persons or property for the business;
- e. Directional signs;
- f. Political signs (4 sq. ft. or less);
- g. The flags of any nation, state, town, military or service organization;
- h. Safety control signs;
- i. Religious and devotional signs or displays, including seasonal/holiday messages.

SECTION 506B. GENERAL DESIGN AND CONSTRUCTION STANDARDS

All signs shall be designed, constructed, and maintained in accordance with the following standards:

- a. All signs shall comply with applicable provisions of any building code, if adopted and the applicable electrical code at all times.
- b. Except for banners, flags, temporary signs, and window signs conforming in all respects with the requirements of this Ordinance, all signs shall be constructed of permanent materials and shall be permanently attached to the ground, a building, or another structure by direct attachment to a rigid wall, frame, or structure.
- c. All signs shall be maintained in good structural condition, in compliance with all building and electrical codes, and in conformance with this code, at all times.
 - i. Maintenance: Signs shall be maintained in a safe and secure condition. If the Zoning Officer is of the opinion that a sign is not secure, safe, or in good state of repair, written notice of this fact shall be given to the person responsible for the maintenance of the sign. If the defect in the sign is not corrected within thirty (30) days, the Officer may revoke the sign permit, thus placing the sign owner in violation of the Ordinance and liable for a fine as specified in 508B.
 - ii. Any lawfully existing nonconforming sign cannot be enlarged, reworded (other than signs with dated, changing messages), redesigned or altered in any way including the repainting in a different color, except to conform to the requirements of this bylaw.
 - iii. Destruction, Damage, Deterioration. Any such sign that has been destroyed, damaged or deteriorated to such an extent that the cost of restoration would exceed thirty-five (35)% of the replacement cost, shall not be repaired or rebuilt or altered except to conform with the requirements of this bylaw.
 - iv. Replacement: Any sign replacing a non-conforming sign shall conform with the provisions of this Section, and the non-conforming signs shall no longer be displayed.

SECTION 507B. ADMINISTRATION AND ENFORCEMENT

- a. Enforcement Officer: All administration and enforcement of this Ordinance shall be primarily implemented by the Zoning Officer.
- b. Permit Procedure: All signs, except as otherwise provided in Section 3 of this Ordinance, shall require a sign permit prior to being constructed, reconstructed, moved, altered, placed, or repaired. Sign permits shall be issued by the Zoning Officer.
- c. Permit Application: All applications for sign permits for the erection or relocation of a sign shall be submitted to the Zoning Officer.

- d. Permit Fees: Each application for a sign permit shall be accompanied by the applicable fees, which shall be established by the Township from time to time.

SECTION 508B. SCENIC ROAD DESIGNATION: Pursuant to the standards of this Article and as identified in the Buffalo Township Comprehensive Plan amendment, the following routes are designated as scenic roads:

Areas of the following roads where the zoning designation is A-1 Agricultural, on either side of the road:

Kepple Road	Parker Road
Stepp Road	Ekastown Road
Monroe Road	Thompson Road
Younkins Road	Harvey Road
Bear Creek Road	Helper Road
Harbison Road	Coal Hollow Road
Walter Road	Heck Road
Ralston Road	Smith Road
Sunset Road	Riemer Road
Beale Road	

SECTION 509B. DEFINITIONS

ABANDONED SIGN. A sign which no longer identifies a bona fide business, lessor, service, owner, product, or activity, time of event passed, and/or for which no legal owner can be found. The definition shall also include any sign structure which no longer supports the sign for which it was designed.

AWNING. A non-illuminated sign painted on or attached to a fabric or vinyl cover on a rigid frame. Only business names and/or logos may be attached to, painted, stenciled, or otherwise placed on these devices.

BILLBOARDS. A sign that identifies or communicates a commercial or non-commercial message related to an activity conducted, a service rendered, or a commodity sold at a location other than where the sign is located.

DIRECTIONAL SIGN. A sign erected and maintained by local officials within the public right-of-way, to indicate to the traveling public the route and distance to public accommodations, facilities, commercial services and points of scenic, historical, cultural, recreational, educational or religious interest. Such signs shall conform to all applicable state regulations regarding the placement of signs in public rights-of-way.

FLAG. Any fabric, banner, or bunting containing distinctive colors, patterns, or symbols, used as a symbol of a government, political subdivision, or other entity.

FREESTANDING SIGN. A sign self supported by a pole or post and not attached to any building, wall, or fence, but in a fixed location. Types of freestanding signs include: post and arm; monument; and pole signs.

MARQUEE. A sign painted on, attached to, or consisting of interchangeable letters on the face of a permanent overhanging shelter which projects from the face of a building. Letter or symbols shall not exceed six (6) inches in height. A minimum clearance of ten (10)* feet above the sidewalk level shall be required for pedestrians.

MONUMENT SIGN. An outside sign identifying a development, businesses, services, or homes (such as a shopping area or housing development) made of brick, masonry or stone, the bottom of which is attached directly and permanently to the ground and physically separated from any other structure.

NON-CONFORMING SIGN. A sign which lawfully occupied a building or land at the effective date of this Ordinance, or any amendment thereto, that does not conform to the regulations of the district in which it is located.

OFF-PREMISE SIGN OR BILLBOARD. A sign which identifies goods or services that are not sold on the same premises as the said sign.

ON-PREMISE SIGN. A sign identifying or advertising a business, person, activity, or service located on the premises where the sign is located.

POLE SIGN. A freestanding sign with the base of the actual sign area at least five (5) feet above the ground supported by vertical pole(s).

POLITICAL SIGN. Any sign that advertises a candidate or an issue which is to be voted on in a local, state or federal election process.

PORTABLE SIGN. A sign not designed or intended to be permanently affixed into the ground or to a structure.

PREMISES. The contiguous land in the same ownership or control which is not divided by a street.

PROJECTING SIGN. A sign attached to a building wall or structure that projects horizontally more than twelve (12) inches from the face of the wall.

PUBLIC WAY. Any corridor designed for vehicular or pedestrian use that is maintained with public funds.

REAL ESTATE SIGN. A temporary sign advertising the real estate upon which the sign is located as being for rent, lease, or sale.

SAFETY CONTROL SIGN. Warning, control, OSHA, or required public safety sign.

SCENIC ROADSIDE. Scenic roadsides are established and named herein to mean those land areas within the municipal limits which lie within the viewshed of either side of the outermost edge of any of the roads more specifically designated in **Section 10??**, which are of uncommon visual importance or scenic attractiveness.

SIGN. A sign is an object, device, display, or structure, or part thereof, displayed outdoors or visible from a public way, which is used to advertise, identify, display, direct or attract attention to an object, person, institution, organization, business, product, service, event or location; or to express a point of view, by any means including words, letters, figures, design, symbols, advertising flags, fixtures, colors, illuminations or projected images. Each substantially different face of a sign shall constitute a separate sign.

SIGN AREA. The facing of a sign, including copy, insignia, background, structural supports, and border and trim. The measurement shall be determined by the smallest rectangle inclusive of all letters and images. The structural supports shall be excluded if they do not constitute a major part of the sign or if the structure is not used to identify or attract attention to the business or product. On a two-sided sign, only one face is counted in computing sign area.

SEASONAL SIGN. A sole sign for a business, such as a farm or produce stand sign, displayed at least sixty (60) days but no more than one hundred and twenty (120) days each year. Such a sign shall be governed by the same regulations as all other permitted, non-temporary signs.

TEMPORARY SIGN. A promotional sale sign, fund-raising sign, garage sale sign, political sign, or similar sign displayed no more than fourteen (14) days in any six (6) month period.

TRAFFIC CONTROL SIGN. A sign to regulate traffic that has been erected by municipal officers having jurisdiction over the public way.

TRAFFIC FLOW INFORMATIONAL SIGN. A sign directing traffic to or from or within or providing information for a commercial, residential or industrial development.

VIEWSHED. An area visible from the road that provides vistas over water or across expanses of land, such as farmland, woodlands, coastal wetlands, mountaintops or ridgelines.

WALL SIGN. A sign mounted parallel to the exterior surface of a building.

WINDOW SIGN. Any sign, picture, symbol, or combination thereof, designed to communicate information about an activity, business, commodity, event, sale, or service, that is permanently affixed inside a window or upon the windowpanes or glass and is visible from the exterior of the window.