

ROUTE 20 LAND USE AND TRANSPORTATION STUDY

Towns of Guilderland and Princetown, NY

Prepared for:

Town of Guilderland

Town of Princetown

Capital District Transportation Committee



Prepared by:

Behan Planning Associates, LLC
Capital District Transportation Committee

November 2008



Route 20 Land Use and Transportation Study
Towns of Guilderland and Princetown, NY

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Route 20 Land Use and Transportation Study
Towns of Guilderland and Princetown, NY

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Executive Summary

The Towns of Guilderland and Princetown have jointly commissioned this study, with support from the Capital District Transportation Committee, to examine future land use and transportation improvements along a 4-mile segment of Route 20. At the western edge of the Route 20 corridor, in the Town of Princetown, there is a small commercial and industrial center, Gifford Hamlet. Traveling east, the corridor is primarily rural with residential homes and a few low-intensity commercial uses at the intersections of Route 20 with Route 397 (Dunnsville Road) and Route 158. Results of a transportation analysis indicate that the corridor as a whole is functioning well when compared to other similar corridors. At present, the corridor can absorb additional traffic volume. However, some residents are concerned about the high speed of vehicle travel, as well as the tractor trailer traffic in the corridor.

Although some residents would like to see the Route 20 corridor remain the same, the potential for change must be acknowledged. Recent access to water in Princetown has allowed for expansion of commercial uses in Gifford Hamlet and surrounding areas, and may allow for expansion of water lines into the Town of Guilderland. It is important to identify a cohesive vision for the corridor now, rather than wait until it is too late. Unplanned development can be deleterious from many aspects. It can add traffic to the roadways, compromise community character and even reduce the economic value of an area.

This study identifies a coordinated plan for land use and development along Route 20. Gifford Hamlet would remain as an existing commercial and industrial area. Through time, improvements would be made to allow for safer, more efficient travel. Landscape buffers and plantings would also be used to beautify the commercial area of Gifford Hamlet. Along the remainder of the corridor, the character would be predominantly “rural.” Open areas and natural resources such as the Indian House Creek and Settles Hill would be maintained. “Country retail” uses such as farm stores or antique shops in character of the rural surroundings would be supported. Future development would be clustered around the Dunnsville Hamlet, where a new country hamlet is proposed that could house a mix of uses including residential homes as well as businesses and offices.

The concept of nodal development (development focused in centers rather than spread out all along the corridor in “strips”) is proposed to preserve the character of the rural portions of Guilderland and also to recognize and not detract from the existing commercial areas in Princetown and Guilderland.

In the long-term, recommended transportation improvements include intersection improvements, roundabouts, and a sidewalk along Route 20. Eliminating the tractor trailer travel along Route 20 and addressing speed enforcement are also important for safety.

Managing access within the corridor, for example by eliminating multiple driveways or undefined curb cuts along Route 20, is also recommended.

While the recommendations of this plan are far reaching (some of them may be even 20-years out), it is important that they continue to serve as a guide for the towns actions. The plan helps to guide land use and transportation investments and other decisions that are made by the towns, and also by state and federal agencies.

The vision map on page 40 provides more detail on the recommendations of this plan and serves as a graphic “executive summary” for this report.

Part I: Introduction

This Land Use and Transportation Study focuses on an approximately 4-mile stretch of RT 20 between the intersection of RT 20 and RT 158 in the Town of Guilderland (near the northern end of the Watervliet Reservoir) and the intersection of RT 20 and RT 406 (Gifford Hamlet) in the Town of Princetown. The corridor is primarily traveled by commuters to Albany and Schenectady. Morning traffic generally travels eastbound and evening traffic generally travels westbound (see the Regional Context map on page 3). Currently, the RT 20 corridor is lined with farms, forests, rural homes, and a few small clusters of commercial businesses. Guilderland's 2000 *Comprehensive Plan* and the 2005 *Rural Guilderland Plan* called for the preservation of rural landscape character in this western part of town. These documents also laid the groundwork for potential development of a rural hamlet. Princetown is currently in the midst of a comprehensive planning process. The recent access to water in Princetown necessitates advanced planning to ensure that future development is consistent with the communities' vision for the corridor.

While it may be hard to imagine the RT 20 corridor lined with homes and businesses, the access to water brings the possibility of development some time in the future. Often, new homes and commercial businesses are built one by one. Individually, they can be harmless - but the cumulative effect of these homes and buildings can negatively impact the community. With sound planning, new development can be an asset to the towns rather than causing additional stress on natural resources, infrastructure and community character. This plan identifies desired land use and transportation patterns along the corridor so that town policies, codes and development guidelines can be modified to support these patterns.

There are many factors to consider in developing a plan for the corridor. The availability of infrastructure, in particular water and sewer services, is a key factor in the potential development of the corridor. Currently, water infrastructure is available only at the western end of the corridor, but it is feasible to extend infrastructure to other parts of the corridor. Additionally, a water line is proposed for RT 158 at the eastern end of the corridor. Sewer services are currently unavailable in the corridor.

The goals of the *Route 20 Land Use and Transportation Study* are as follows:

- Identify desired future land use and transportation patterns for the corridor
- Improve the transportation function and safety of the corridor
- Improve the aesthetics and economic potential of the corridor

The real estate market and general economic trends also affect the development of this corridor. The type of development that is being produced in the corridor currently includes single-family homes on larger lots; automobile-dependent commercial uses such as gas stations and auto body repair shops; and rural and agricultural products such as tractor supplies, sheds and landscape supplies. This plan proposes different types of development, such as compact hamlet development with a mix of residential and neighborhood commercial development; and “country retail” along RT 20. These land uses would allow for the maintenance of open space and green corridors, while still providing economic opportunities.

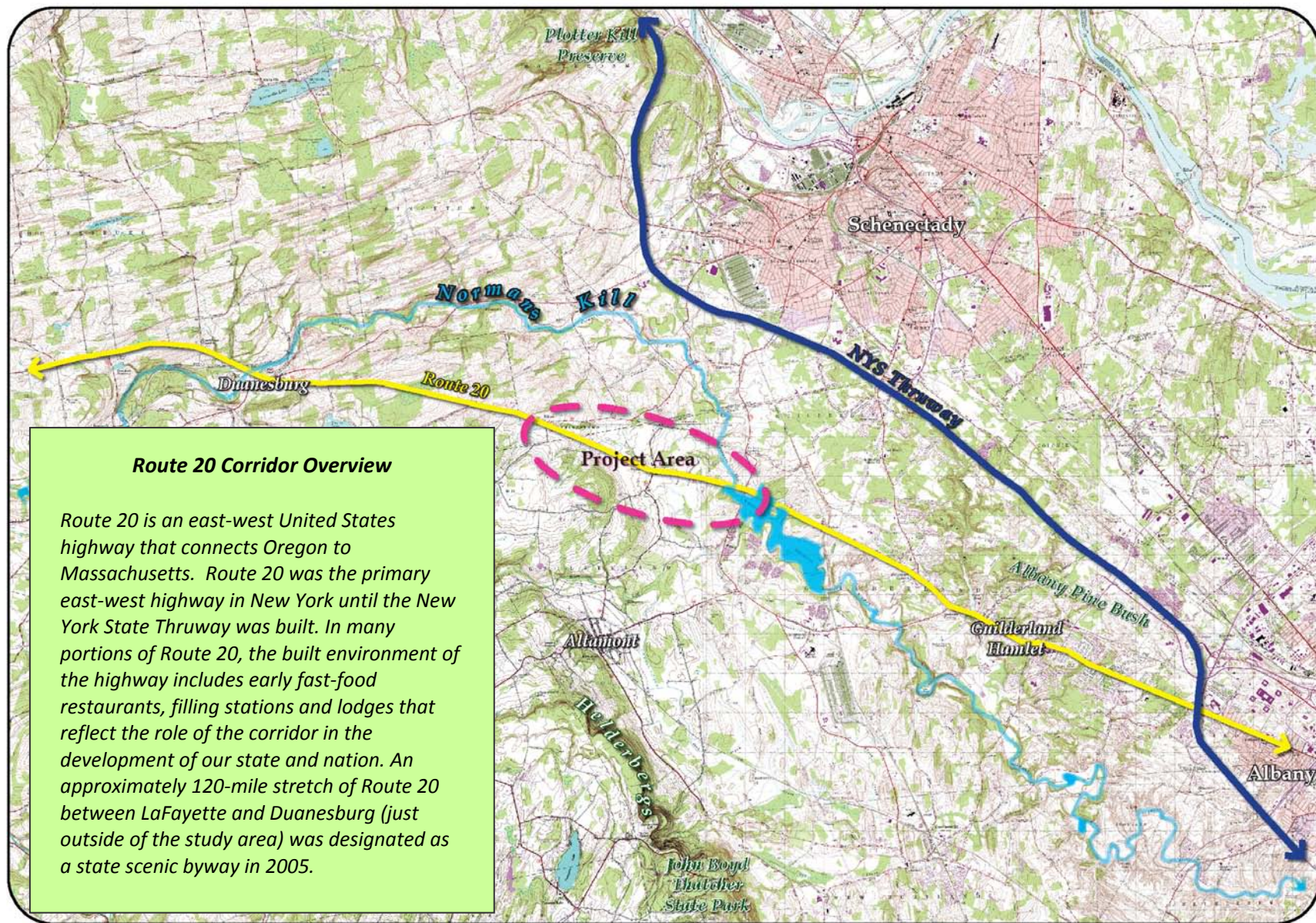
A public workshop was held in November 2007. At this meeting, the project scope and goals were discussed, as well as the existing state of land use and transportation in the corridor. In small groups, participants were asked to identify desired land use and transportation improvements for the corridor. The workshop was well attended with over 50 residents and stakeholders, including many landowners in the corridor. A summary of the workshop results is attached in Appendix A. The text box on this page highlights some of the major conclusions of the workshop.



Results of the Public Workshop

Over 50 people attended the November 2007 public workshop to discuss land use and transportation improvements in the RT 20 corridor. Some of the major themes that were identified at the meeting include:

- Preserve the **“rural character”** – keep the corridor the same
- **Slow down traffic** in the corridor
- Consider the potential for a **hamlet development** near Dunnsville
- **Improve aesthetics** along the corridor, especially in the commercial areas
- Identify **short-term and long-term** implementation projects



Data Sources:
Town of Guiderland, Schenectady County
NYS GIS Clearinghouse, CUG IR

Map prepared by:
Behan Planning Associates, LLC
Planning Community Futures

Towns of Guiderland & Princetown Route 20 Corridor Study Regional Context



Part II: Existing Conditions

A. Transportation

Roadway Characteristics

RT 20 extends in a general north-west to south-east direction through the Towns of Princetown and Guilderland. The road segment from the Princetown town line to RT 397 is classified as 'rural arterial' and from RT 397 to the east as 'urban arterial' according to the New York State Department of Transportation (NYSDOT) road classification system. The main function of an arterial is to carry through traffic; however, it is important to remember that it also serves local or 'access' trips to and from surrounding developments.

The entire corridor has one travel lane (12-ft wide) in either direction with an approximately 3- to 5-ft paved shoulder on either side. This constitutes a total pavement width of 30 to 34 feet. The corridor has an Annual Average Daily Traffic (AADT) of nearly 5,380 vehicles with a posted speed limit of 55 mph. These characteristics show that this road is a relatively heavily traveled, high speed corridor. Pavement condition of the roadway as per the NYSDOT is fair (clearly visible distress) for the segment from the Duanesburg town line to the Guilderland town line; excellent (no distress) from the Guilderland town line to RT 158; and good (symptoms are beginning to show) to the east of RT 158.

Historic Traffic Growth

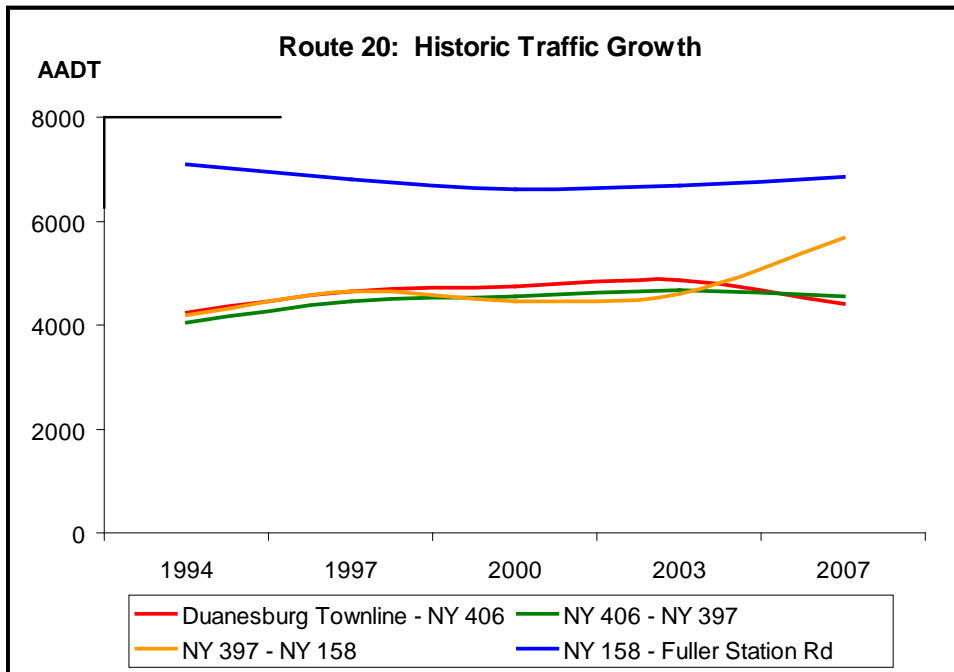
The Annual Average Daily Traffic (AADT) is a measure of the yearly average of vehicle traffic (in both directions) for a given road segment. The graph on page 5 depicts relatively stable vehicle traffic for all segments of the RT 20 Corridor between 1994 and 2007. The segment between RT 397 and RT 158 has seen a small increase (20%) in traffic growth in the past five years. If this trend continues, it could potentially affect the quality of traffic flow and quality of life in general.



A typical cross section along Route 20.

The Route 20 Corridor

The Route 20 corridor includes three major intersections: Route 158 at the eastern end, Route 397 (Dunnsville Road), and Route 406 (Gifford's Church Road) at the western end. Over 3/4 of the length of the corridor is in the Town of Guilderland and the remainder is in the Town of Princetown.



Link Capacity

The highest evening peak hour volume in the corridor is nearly 450 vehicles per hour (vph) in one direction. The highest morning peak hour volume in the corridor is nearly 550 vph in one direction. The quality of traffic flow is assessed by a measure called level of service (LOS). Letter designations from A to F are used to represent LOS with LOS A representing the best and LOS F the worst. See Appendix B for details of LOS thresholds. Based on these peak hour volumes, all of the segments in the corridor have LOS “A” (free flow). The capacity of a similar roadway with LOS D (concern) is 1,000 vph and LOS E (congested) is 1,300 vph per direction. Thus, the corridor has plenty of reserved capacity (*see the Traffic Characteristics Map on page 7*).

Intersections

There are three major intersections in the study area:

1. RT 20 & RT 406 (Giffords Church Rd) in the Town of Princetown

This is a non-signalized three-way intersection with one leg approaching at an acute angle. There are no sidewalks or crosswalks. Many access points create conflicts and confusion. The topography of the area creates some “humps” on the roadway and results in visibility and safety issues.



The Intersection of Route 20 and Route 406 in Princetown.

2. RT 20 & RT 397 (Dunnsville Rd) in the Town of Guilderland

This is a four-way intersection with yellow flashing light on RT 20 and red flashing light on RT 397. There are no sidewalks or crosswalks. The residents expressed safety concerns regarding visual barriers at the intersection and speed of traffic on RT 20 in the public meeting. This has been described by citizens as a major safety concern.

NYSDOT has carried out a safety study at this location and concluded that there is more than sufficient sight distance available for vehicles attempting to enter RT 20. However, the study has identified safety as a serious concern at the intersection. Therefore, NYSDOT has initiated design of a three color signal (full signal) instead of the current flashing signal. This is expected to be operational by 2009.

3. RT 20 & RT 158 (Guilderland Ave) in the Town of Guilderland

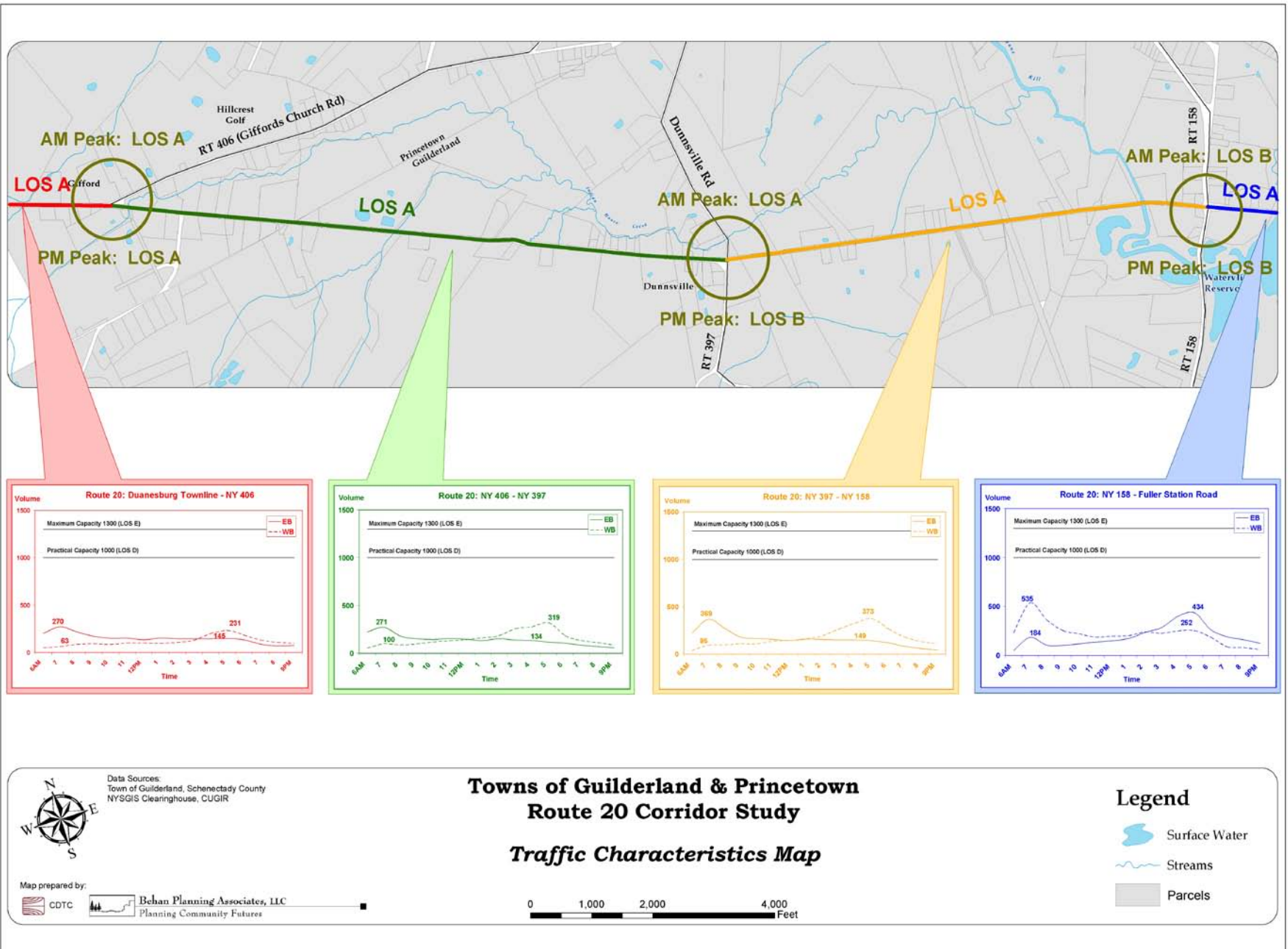
This is a four-way fully signalized intersection. There are no sidewalks or crosswalks here. There is a right-turn lane on the westbound approach on RT 20. The intersection has a noticeable amount of school bus traffic due to the proximity to Guilderland High School.

Intersection Capacity

An analysis of LOS of the three intersections shows that all have plenty of reserved capacity (refer to the Traffic Characteristics Map on page 7). The intersection of RT 20 and RT 406 has LOS A during both morning and evening peak hours. The intersection of RT 20 and RT 397 has LOS A during the morning peak hour and LOS B during the evening peak hour. The intersection of RT 20 and RT 158 has LOS B during both morning and evening peak hours.



The Intersection of Route 20 and Route 158 in Guilderland.



Pedestrian/ Bike Facilities

RT 20 has 3- to 5-ft wide paved shoulders on either side. However, the high traffic speed, oversized vehicles, and uneven terrain are constraints for safe bike travel. There are no sidewalks in the corridor on either side. Intersections at RT 397 and RT 158 are signalized but none of the intersections have any crosswalks marked. RT 20 in the Town of Guilderland is part of the CDTC's '*Bicycle and Pedestrian Priority Network*', which is defined as "a bicycle and pedestrian priority treatment network (that) provides a 'backbone' for a region-wide bicycle and pedestrian travel system. The network of approximately 355 miles contains those facilities which have high existing or potential bicycle and pedestrian travel but also present many barriers, including high traffic volumes/speeds, limited pavement space, and busy or confusing traffic patterns. These facilities connect major activity centers, are accessible to residential areas via local roads, and have few practical alternatives nearby." Many people have expressed concerns about safety with respect to bike riders using the road space along RT 20 as well as RT 158 and RT 397.



Current conditions along Route 20 – a narrow unsigned shoulder –not a safe environment for bike travel.

Traffic Safety

A review of accident reports from 1998 to 2006 shows that there were 131 accidents on the 4 mile segment of RT 20 from the Princetown town line to Guilderland Rd (RT 158). This includes 75 link (road segment) accidents (60%) and 56 intersection accidents (40%). The accident rate for the rural arterial portion of the corridor is 1.41 accidents/million vehicle miles traveled (acc/mvm) and the accident rate for the urban arterial portion of the corridor is 1.07 acc/mvm. These are well below the state averages of 2.22 (two-lane free access rural arterial) and 2.19 (two-lane free access urban arterial). The rate for the link segment from RT 406 to the Princetown Town line is 2.28, which is marginally higher than the state average (2.22). The average numbers are higher in the last three years (2004 to 2006) in the links in the Town of Princetown. While a small number of accidents involved trucks and motorbikes, only one accident (in 2003) involved pedestrians. It should also be noted that there was a fatal accident involving three vehicles in February 2008 at the intersection of RT 20 and RT 158. The cause of this accident is not yet known. A brief summary of accidents between 2004 and 2006 is given below. *For details please see Appendix C.*

These data point to the fact that accidents are increasing in the corridor, particularly in the Town of Princetown. However, the average accident rates could be difficult to compare. The state average is for sections with different land use mix, density of development, terrain, etc., which might not be comparable to the situation here. Also, the cause of incidents doesn't really point to the real issues associated with the corridor. The high speed limit in the corridor, hilly nature of the terrain, angles of approaches at intersections, etc., are all considered factors influencing the incidents. These are addressed in later sections.

Link Segment Accidents

- The segments having a higher rate of accidents than the state average were Duaneburg Town line to RT 406 (4.15) and RT 406 to Guilderland Town line (3.22).
- Link vehicular accidents are mainly Rear End (11), Right Angle (3), and Other (22) types.
- Major causes of accidents are Animals (14), Alcohol (6), Following too closely (4), Inattention (4), Failed to yield right of way (3), and Speed (2).
- A majority of the accidents happened during day time (4 during morning peak period, 6 during evening peak period, and 18 during off-peak period).

Intersection Accidents

The statewide average for four legged signalized intersections is 0.59 accidents per million entering vehicles (acc/mev) and 0.27 acc/mev for four legged signed intersections.

- While the RT 406 intersection has marginally lower accident rate (0.18) than the state average (0.27), the RT 397 and RT 158 intersections have higher accident rates (1.04 and 0.82) than the state average (0.59).
- Intersection vehicular accidents are mainly Right Angle (8) or Left Turn (2) types.

Table 1: A Summary of the link segment accident rates, types and causes for four segments of the Route 20 corridor (1998-2006)

Segment	Accident rate (acc/mvm)	State average accident rate (acc/mvm)	Major accident type	Major accident cause
Duaneburg Line – RT 406	4.15	2.22	Rear End, Other	Animal (2), Alcohol (2)
RT 406 – Guilderland Line	3.22	2.22	Rear End , Other	Animal (2)
Guilderland Line – RT 397	1.21	2.19	Rear End , Other	Animal (3), Alcohol (2)
RT 397 – RT 158	0.97	2.19	Rear End , Other	Animal (4)

Table 2: A Summary of the Intersection accident rates, types and causes for the three major intersections in the Route 20 corridor (1998-2006)

Intersection	Accident rate (acc/mvm)	State average accident rate (acc/mvm)	Major accident type	Major accident cause
RT 20 @ RT 406	0.18	0.27	Right Angle	Failure to yield ROW
RT 20 @ RT 397	1.04	0.59	Right Angle, Left Turn	Failure to yield ROW
RT 20 @ RT 158	0.82	0.59	Right Angle	Failure to yield ROW

- Majority of the accidents happened during day time (3 during morning peak period, 3 during evening peak period, and 9 during off-peak period).
- The placement of signals and road approach characteristics at RT 397 are anecdotally considered as causes of some incidents.

Others Safety Aspects

Another aspect of the safety in the RT 20 corridor is the high speed of traffic. With many driveways opening on to RT 20 and a posted speed limit of 55 mph, there is a serious safety concern. Many citizens also raised this concern during the public meeting and suggested that the speed limit should be reduced.

There are a number of oversize load trailers hauling modular homes that travel along RT 20 in the study area. These vehicles are noticed exiting from I-88 and traveling eastwards all along RT 20. They are traveling from Ohio to various parts of New England. An enquiry found that the toll booths at the Thruway interchange 25A are not wide enough to let these vehicles get onto thruway. These vehicles are long-distance travelers. By traveling on an arterial like RT 20, they cause a major safety and community compatibility concern. This was identified as a major issue by citizens at the public meeting.

Driveway Level of Compatibility

CDTC also evaluated the driveway level of compatibility (LOC) ratings (from A to F) for the RT 20 corridor. The LOC ratings compare the number and spacing between residential or commercial driveways along a roadway segment to its traffic volume; *the more frequent the number of driveways and higher the traffic volumes the lower the rating*. This comparison provides a measure of arterial function in terms of potential conflicts between through traffic on a roadway and vehicles turning into or out of adjacent driveways. A LOC of “C” or better indicates that the interplay between driveway access and through traffic is adequate. Ratings from “D to F” signal there is probably constant conflict between access to/from a roadway and through traffic often resulting in problems with traffic flow and increased crashes.

As can be seen in Table 3 on the previous page, which summarizes the results of the existing driveway LOC ratings for the corridor, the segment between RT 397

Road Segment	Existing Residential Driveway LOC	Existing Commercial Driveway LOC
Princeton boundary – RT 406 (Giffords Church Rd)	B	A
RT 406 – RT 397 (Dunnsville Rd)	C	B
RT 397 – RT 158 (Guilderland Ave)	D	A
RT 158 – 0.25 mile east	C	A
Corridor Totals	C	B

Table 3: Driveway Level of Compatibility (LOC) rating for four segments of the Route 20 corridor (1998-2006)

and RT 158 has significant conflict between traffic and residential use while the segments RT 406 to RT 397 and RT 158 to the east are on the margin. In view of these ratings and potential for further residential and commercial developments, it is important to appropriately design access management treatments in these areas. Such treatments would help in mitigating the impacts of traffic on residential and commercial access and on the roadway's arterial function. Details of these analyses are given in Appendix D.



Multiple driveways accessing Route 20, west of the intersection with Route 397. This segment is rated as LOC D, indicating probable conflicts.

B. Land Use

Real Property Classifications

Real property classifications refer to the code assigned to a parcel by the municipality's assessor. The classifications shown on the **real property classifications map** are general indications of land use such as residential, commercial or industrial uses.

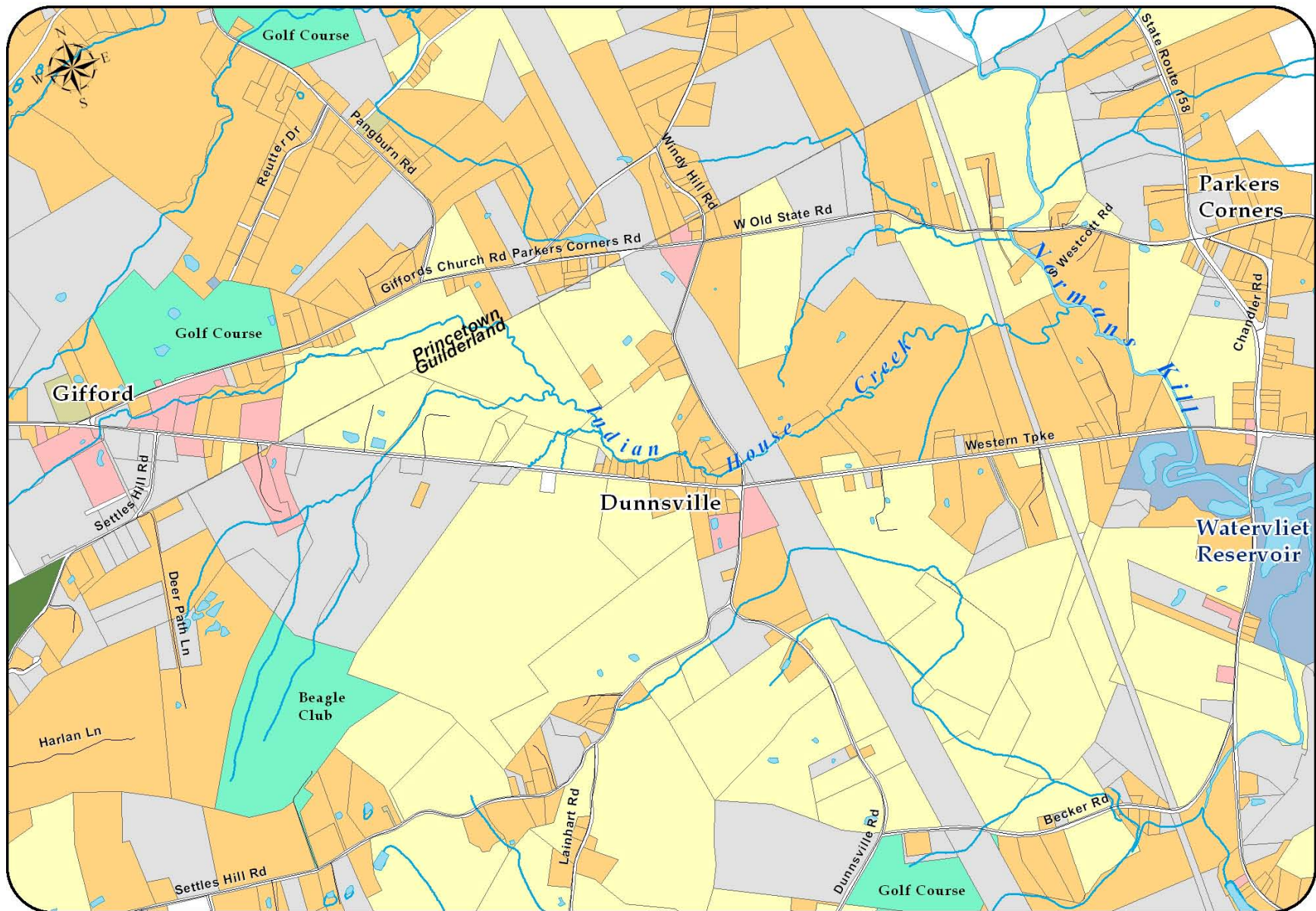
The predominant land uses in the RT 20 corridor include agricultural, residential and vacant land. Commercial land uses are currently clustered in the Dunnsville and Gifford hamlets, as well as a few businesses at the intersection of RT 158 and RT 20.

The land uses between Guilderland and Princetown are for the most part compatible and comparable. The types of commercial uses in Princetown commercial district are somewhat more intensive than the uses in Guilderland. Commercial uses in both Princetown and Guilderland are mostly auto-related (such as gas stations and auto repair). Many of these businesses also provide support for the agricultural land owners in the surrounding areas (such as tractor repair).



Automobile-related uses (such as gas stations, auto repair shops and towing) are the primary use in the commercial areas of Route 20.

There are also several businesses in the corridor that are less intensive and supportive of an agricultural and rural environment, such as a garden shed retailer and a garden statuary business. These types of uses are compatible with the rural landscape and surrounding uses.



Towns of Guilderland & Princetown
Route 20 Corridor Study
Existing Real Property Classifications





There are also two major overhead utility corridors that transect the corridor. One high-voltage utility corridor runs north-south through the Dunnsville Hamlet area and has a large visual impact on the area as seen in the photograph at left.

In the corridor as a whole, there is still room for growth to occur. There are several large undeveloped parcels in the corridor with few regulatory constraints to development. Based on the town's current zoning law, most of the future development in Guilderland would likely be residential.

Zoning Designations

Within the RT 20 corridor, there are four main zoning districts: Rural 3 (Ru-3) and Local Business (LB) in Guilderland, and Commercial (C-1) and Industrial (I-1) in Princetown. The **Existing Zoning Map** on page 17 illustrates the zoning districts.

According to the Town of Guilderland Zoning Law, the Rural 3 district in Guilderland is intended to achieve the following:

- Preserve the rural character of life evident in the area
- Provide and maintain large, contiguous areas of land to promote and support ongoing agricultural uses
- Encourage development at a medium to low density on a range of lot sizes using conservation-sensitive design

Allowed uses in the Rural 3 district include farming, pasture, grazing, animal husbandry, single family dwellings and customary home occupations, among other uses. A variety of other uses are allowed with a special use permit, including day care centers, farm implement stores, commercial nurseries, country stores.

The Local Business district in Guilderland is intended to provide "areas or centers for convenient shopping to serve residential neighborhoods" and they are "intended to be designed to attract pedestrian customers from the surrounding residential development." The types of uses that can occur in the Local Business district include: laundromat, bakery, convenience food store, hardware store, sit-down restaurant, flower shop, beauty salon or bank. These uses must all obtain a special permit. Automobile-related uses such as gas stations are not permitted in these districts.

In the Princetown Commercial (C-1) District, general neighborhood commercial uses such as offices, banks, non-gasoline retail, farm operations and beauty salons are permitted. More intensive uses such as gas stations, car sales, motels, trucking terminals and dry cleaning are allowed with a special use permit.

The above discussion is not meant to be an exhaustive list of allowed and special uses. Refer to the respective zoning codes of Guilderland and Princetown for a complete list.

Environmental Features

The most predominant environmental features in the RT 20 corridor are the Watervliet Reservoir, Settles Hill and the Indian House Creek, which are depicted on the **Environmental Features Map** on page 18. The Watervliet Reservoir is a primary water supply for the Town of Guilderland. The watershed of the reservoir is fed by several major streams, including the Normans Kill, Bozen Kill, and Black Creek. Maintaining the quality of the watershed is an important goal for the Town of Guilderland, as well as the other communities that take water from the reservoir. Protection of the water quality and quantity has been identified in the *Guilderland Comprehensive Plan*.

Settles Hill contains the steepest slopes in the study area and is also very visible from the roadway. Settles Hill is a local landmark that is predominantly undeveloped and contains a large forested area. The hill also presents challenges for transportation and water infrastructure. A tributary of Indian House Creek originates in Settles Hill. Indian House Creek flows into the Normans Kill and generally traverses the study area in an east-west direct north of RT 20. There are some areas of steep slopes and ravine-like topography along Indian House Creek.



Historic and Cultural Features

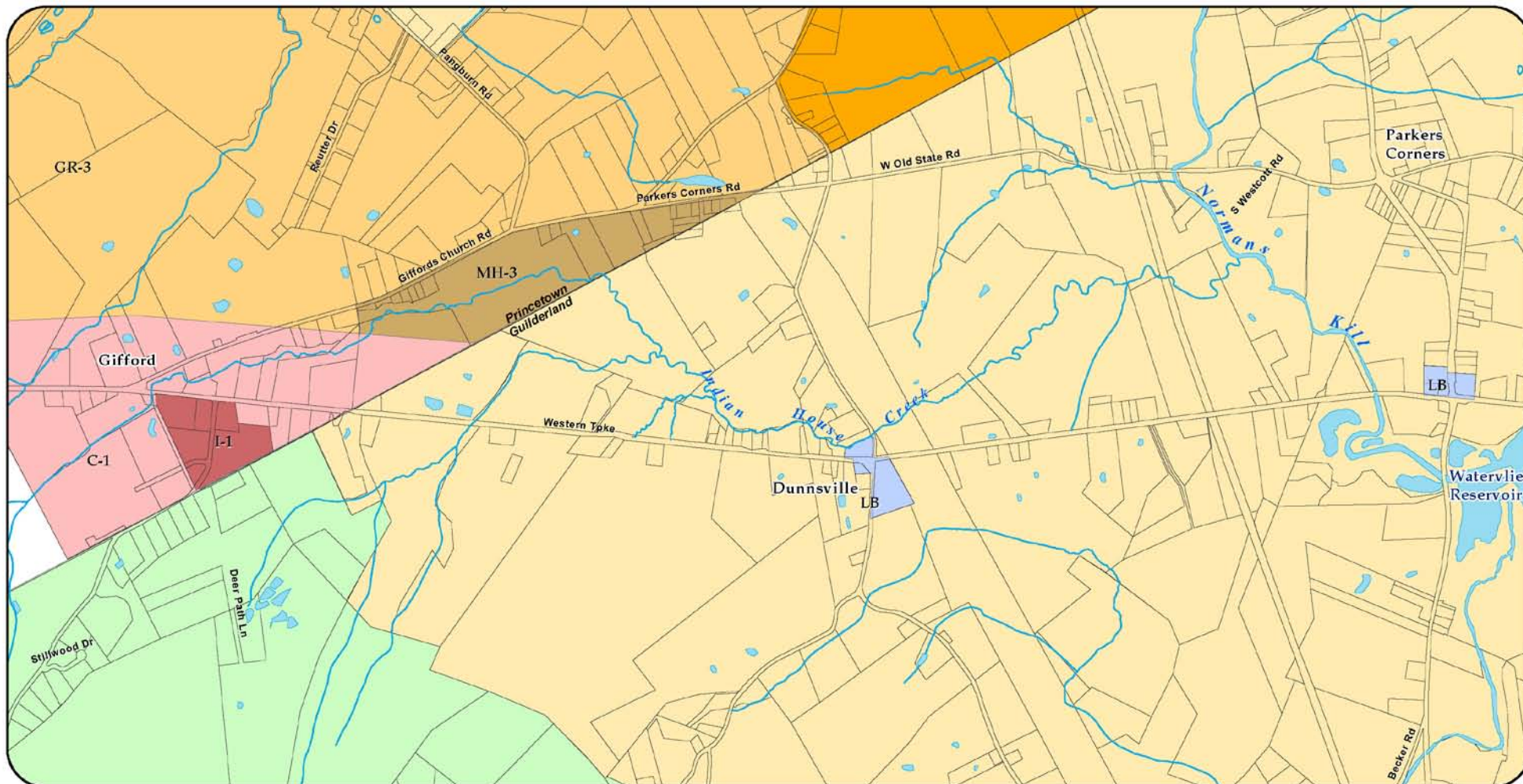
The **Historic and Cultural Features Map** on page 19 illustrates the rich cultural history of the RT 20 corridor and surrounding area.



A scenic vista looking east along Route 20 at the western edge of the corridor.

Agriculture is one of the primary economic uses and cultural features in the area which is valued for its production of food as well as for the rural character it imparts to the area. Prime farmland soils in the corridor are primarily associated with the floodplains of Indian House Creek and the Normans Kill.

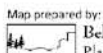
The Historic and Cultural Features Map also identifies historic sites in the corridor, most of which are associated with original farmsteads and settlers of the area. The map also depicts two primary scenic vistas - one looking to the south (towards the Heldebergs) along RT 20 just west of the intersection of RT 20 and RT 158; and another scenic vista east of the Gifford Hamlet looking east towards Albany. The map also illustrates the existing and proposed water lines in the Towns of Guilderland and Princetown. The availability of water services has been concentrated in the western portion of the corridor (Town of Princetown).



Data Sources:
Town of Guilderland, Schenectady County
NYSGIS Clearinghouse, CUGIR

Towns of Guilderland & Princetown Route 20 Corridor Study

Existing Zoning



Map prepared by:
Behan Planning Associates, LLC
Planning Community Futures

0 1,000 2,000 4,000
Feet

Zoning

LB, Local Business

Ru-3, Rural 3

Ru-5, Rural 5

C-1, COMMERCIAL

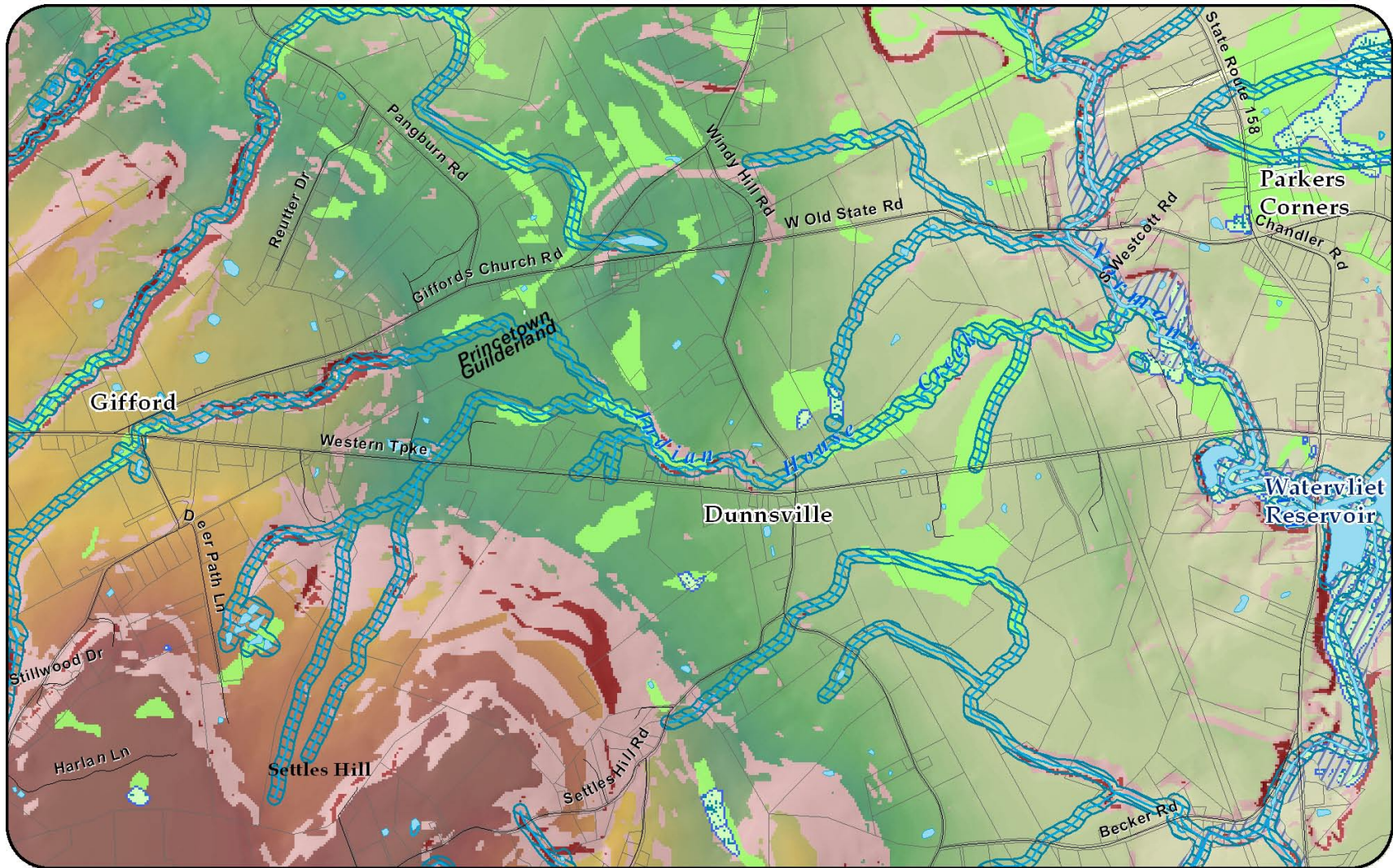
I-1, INDUSTRIAL

GR-1, GENERAL RESIDENTIAL

GR-3, GENERAL RESIDENTIAL

GR-4, GENERAL RESIDENTIAL

MH-3, MOBILE HOME



**Towns of Guilderland & Princetown
Route 20 Corridor Study**
Environmental Features

Map prepared by:
Behan Planning Associates, LLC
Planning Community Features

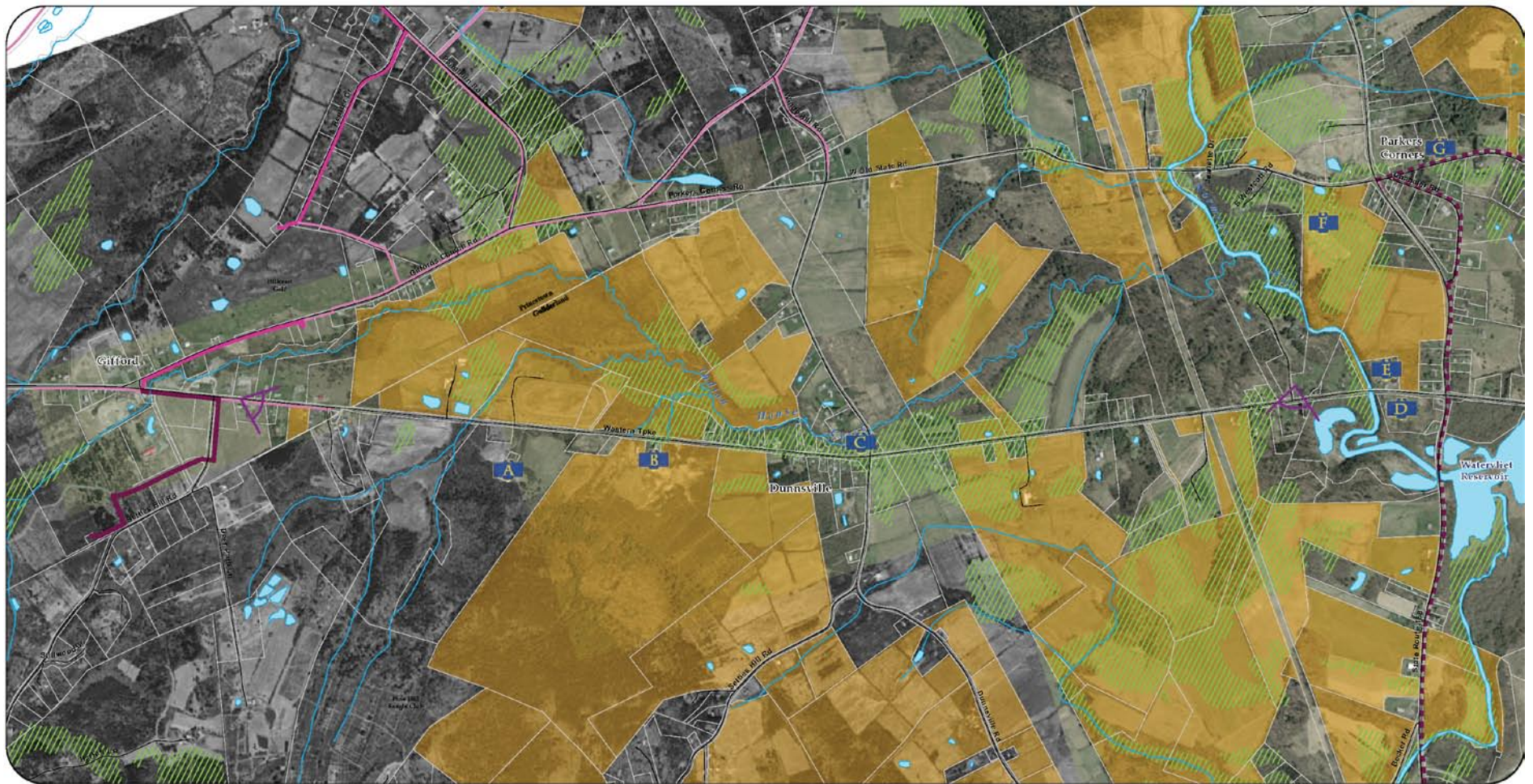
0 1,000 2,000 4,000
Feet

- Surface Water
- 100' Water Buffer
- 100-Year Floodplain

- Wetlands
- Hydric soils
- Slope 12 - 25 %
- Slope > 25%

Elevation

High : 1800'
Low : 100'



Data Sources:
Town of Guilderland, Schenectady County
NYSGIS Clearinghouse, CUGIR

For Conceptual Planning Purposes Only

Map prepared by:

Behan Planning Associates, LLC
Planning Community Futures

Towns of Guilderland & Princetown Route 20 Corridor Study

Historical & Cultural Features

Water Lines

Diameter

8-inch

10-inch

12-inch

12-inch proposed



Prime Farmland Soil



Active Agricultural Properties



Scenic Vista



Historic Sites*

*A. Vander Farmhouse #1
B. Vander Farmhouse #2
C. Offert Orange Hall
D. Sharp Brothers House
E. Sharp Farmhouse
F. Charles Parker House
G. Stephen Pangburn House

0 1,000 2,000 4,000
Feet

Part III: Land Use and Transportation Plan

In the past century, a great deal of effort has been focused, across the United States, on the development of roads that move vehicles efficiently through our communities and regions. Building and expanding road systems opens up more land to development and often leads to more growth, which in turn leads to more road building or road widening. The cycle repeats itself. The results of this incremental planning are exhibited along commercial strips: dangerous intersections and conflict points and compromised community character.

Transportation planning is more effective when it is coordinated with land use planning. This concept of linking transportation and land use planning includes considerations for community form as well as the design of transportation systems. For example, nodal development helps to reduce vehicle trips and thus congestion along roads. Access management techniques, such as controlling the number and placement of driveways along a major roadway such as RT 20, can have a major influence on the function of the corridor, enhancing safety and efficiency and creating a more enjoyable place.

The land use plan for the RT 20 corridor promotes the concept of nodal development – both residential and commercial development along RT 20. It proposes a new hamlet area in Guilderland and improved or expanded commercial districts in both Guilderland and Princetown. This nodal development is balanced with the preservation of natural resources and open spaces. Over time, the RT 20 corridor would be enhanced primarily for traffic calming

Vision Statement

Route 20 will be a safe and efficient transportation corridor for automobiles, pedestrians and bicyclists. The preservation of the natural and rural landscapes of the corridor will be balanced with strengthened commercial areas, country retail, and new mixed-use hamlet style development.*

Country retail might include uses such as farm markets/stores, bed and breakfast, landscaping or plant nurseries, or antique shops.



purposes – to slow down traffic – and also to create more opportunities for pedestrian connectivity between existing and future neighborhoods. Connectivity through the corridor would also be enhanced through a series of access streets and local roads.

The land use and transportation plan is summarized on the RT 20 Corridor Vision Map on page 40. This map and plan should be referenced to help guide both public and private decisions in the future regarding:

- Changes to zoning or land use regulations
- Transportation enhancements such as intersection improvements, roadway improvements, or trails
- Infrastructure investment (such as water expansion or sewer infrastructure)
- Public investment or beautification projects (such as gateway features or improved lighting)
- Enhancements to commercial districts

A. Transportation Plan Concepts and Recommendations

The transportation plan provides a framework for future improvements and modifications to the RT 20 corridor and surrounding area. This transportation plan should be consulted as both private and public planning efforts are undertaken in the corridor. The transportation plan includes general recommendations for improving the safety of the corridor, such as speed enforcement and speed limit reduction, as well as more specific improvements for the three major intersections in the RT 20 corridor. Also see **Appendix E** for an overview of the existing conditions and recommended actions for the three major intersections of RT 20. The transportation plan also provides recommendations for bicycle and pedestrian transportation in the corridor. Where feasible, the Towns of Guilderland and Princetown should explore opportunities for shared services, such as for water and sewer services, road and sidewalk maintenance, recreation services, and other types of services that would benefit town taxpayers.

1. General Roadway Improvements

To improve the general function of the corridor and address the concerns of many residents regarding the safety of the corridor, the following recommendations should be explored:

- a. **Roadway Shoulders:** Maintain a uniform width of at least 4-5 feet for shoulders on both sides of RT 20. The towns should pursue this with the NYSDOT so that when NYSDOT plans a reconstruction of the roadway, this can be implemented.
- b. **Speed Enforcement:** Increase speed enforcement and patrolling to influence the travel behavior in the RT 20 corridor. This would be a short term solution. The long term solution would be to implement more traffic calming techniques and reduce the speed limit itself (see # 2 following). Recommendations for traffic calming and roadway improvements are discussed in more detail on page 23.
- c. **Toll Booth Widening:** Pursue discussions with the New York State Thruway Authority (NYSTA) to widen the toll booths at exit 25A to allow modular home trailers to use the thruway and thus avoid RT 20. This would improve the safety and performance of the arterial.

2. Speed Limit Reduction

The Towns of Guilderland and Princetown should pursue discussions with the NYSDOT to reduce the speed limit on RT 20 (possibly to 45 mph) if and when the road segment is redesigned. The NYSDOT approach to setting speed limits is based on the 85th percentile speed of traffic traveling on a street. The 85th percentile speed on RT 20 will be well over 45 mph. However, the NYSDOT would be willing to consider a speed limit change if road design modifications such as raised medians, roundabouts, and other traffic calming techniques are introduced on RT 20. The intersection improvement recommendations and access management recommendations described in this report could be the catalyst for a speed reduction request to the NYSDOT.

3. General Intersection Improvements – Sidewalks, Crosswalks, Raised Medians and Signage

All three intersections in the RT 20 corridor are in need of improvements to enhance safety for motorists and accommodate pedestrian travel. As new development or redevelopment occurs in the corridor, the feasibility of adding sidewalks and crosswalks at the three intersections should be explored. Along with raised/landscaped medians, sidewalks and crosswalks could act as traffic calming and safety improvement measures at the intersections and could potentially serve as the impetus for a speed limit reduction, which is desired by many of the community members who attended the workshop for this plan. In addition, the traffic lanes should be narrowed from 12 feet to 11 feet near intersections. This helps to alert the motorist and slow down traffic as an intersection is approached. In the short-term, signage should be added/improved at all three intersections to alert motorists that they are approaching an intersection.



Examples of rural roadways with raised medians.

4. Detailed Intersection Improvements

Each of the three intersections in the RT 20 corridor can be improved in the long-term to enhance efficiency and safety. Existing conditions and suggested improvements are detailed for each intersection on the maps in Appendix E (pages 53-55).

For the Giffords Church intersection (RT 20 & RT 406), realignment of the intersection to a four-way intersection and elimination of the “triangle” is recommended in the long term. For the Dunnsville Road intersection (RT 20 & RT 397), recommended improvements are focused on slowing down traffic as it reaches the hamlet and in creating a more pedestrian-friendly environment. For the Watervliet Reservoir intersection (RT 20 and RT 158), the focus is on improving efficiency of the intersection as well as the pedestrian flow and connections to other areas of town. A roundabout is recommended for this intersection as a long-term alternative.

a. Giffords Church Intersection: RT 20 & RT 406 (Giffords Church Rd.) in the Town of Princetown

The Giffords Church intersection is currently unsafe and confusing for automobiles. The un-signalized “triangle” intersection is located at the bottom of a hill (as autos are speeding up) and creates the potential for conflict. Currently, there is no sidewalk or pedestrian system in place. Realignment of the intersection should be pursued as a long-term alternative. This realignment would address safety issues associated with the intersection. Realignment would also provide an opportunity to create a gateway entrance to Princetown, helping to give form to the surrounding commercial development. In addition to realignment and the creation of a gateway amenity, access management strategies are recommended in the commercial area of Princetown. See access management guidelines (Appendix F) for more information.

Short-Term:

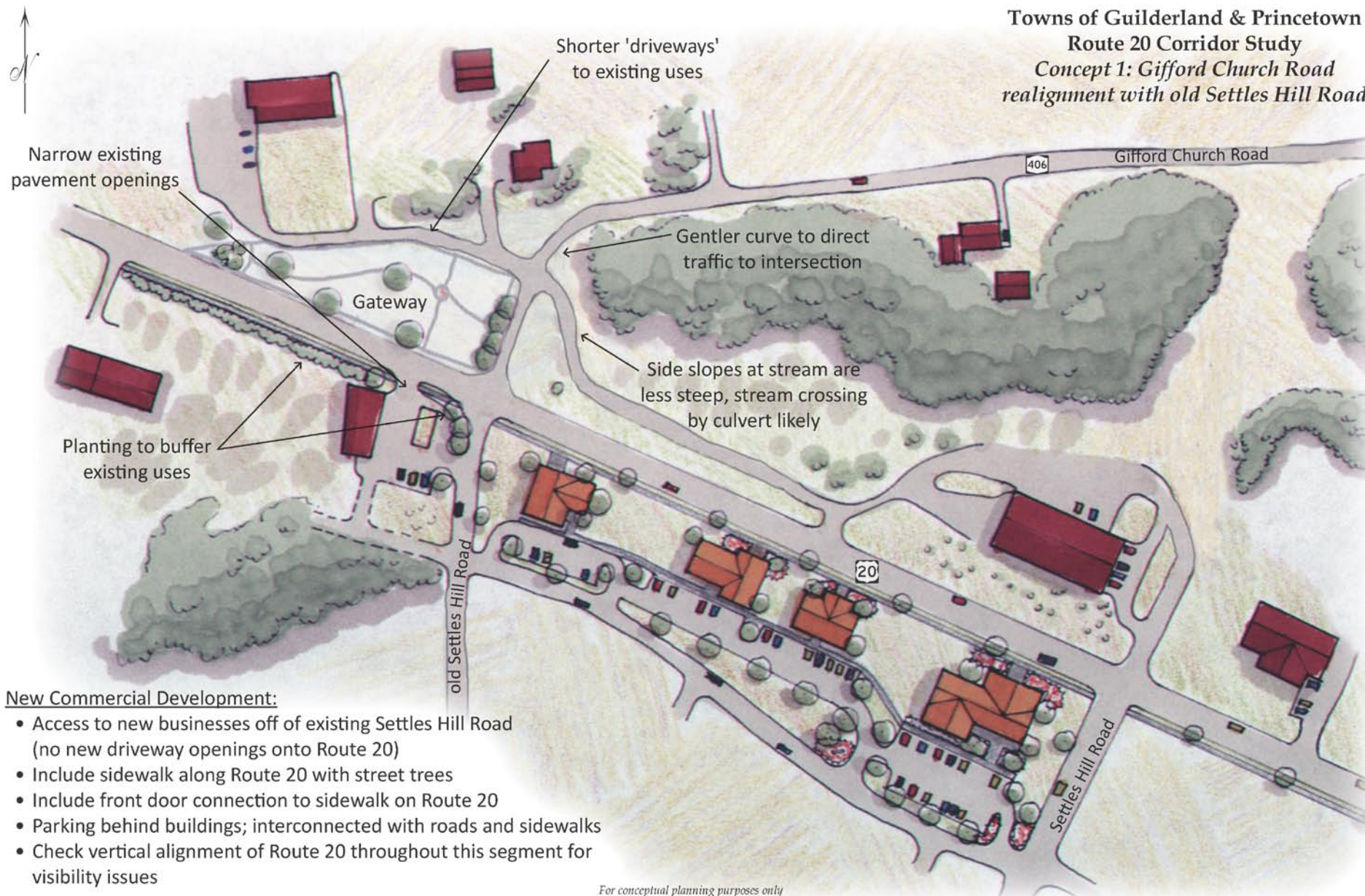
- As improvements are undertaken, the roadway can be re-graded to remove the “humps” and improve visibility and safety at the intersection.
- Sidewalks, crosswalks, raised medians and signage should be implemented in the hamlet area as improvements are undertaken.

- Shared driveways and parking should be priority treatments as new development is approved or as improvements are made in the vicinity of Gifford hamlet.
- There are opportunities for shared access and service roads within existing development. There are also opportunities to close up curb cuts. Explore the options with landowners and look for grant and funding opportunities to advance concepts.

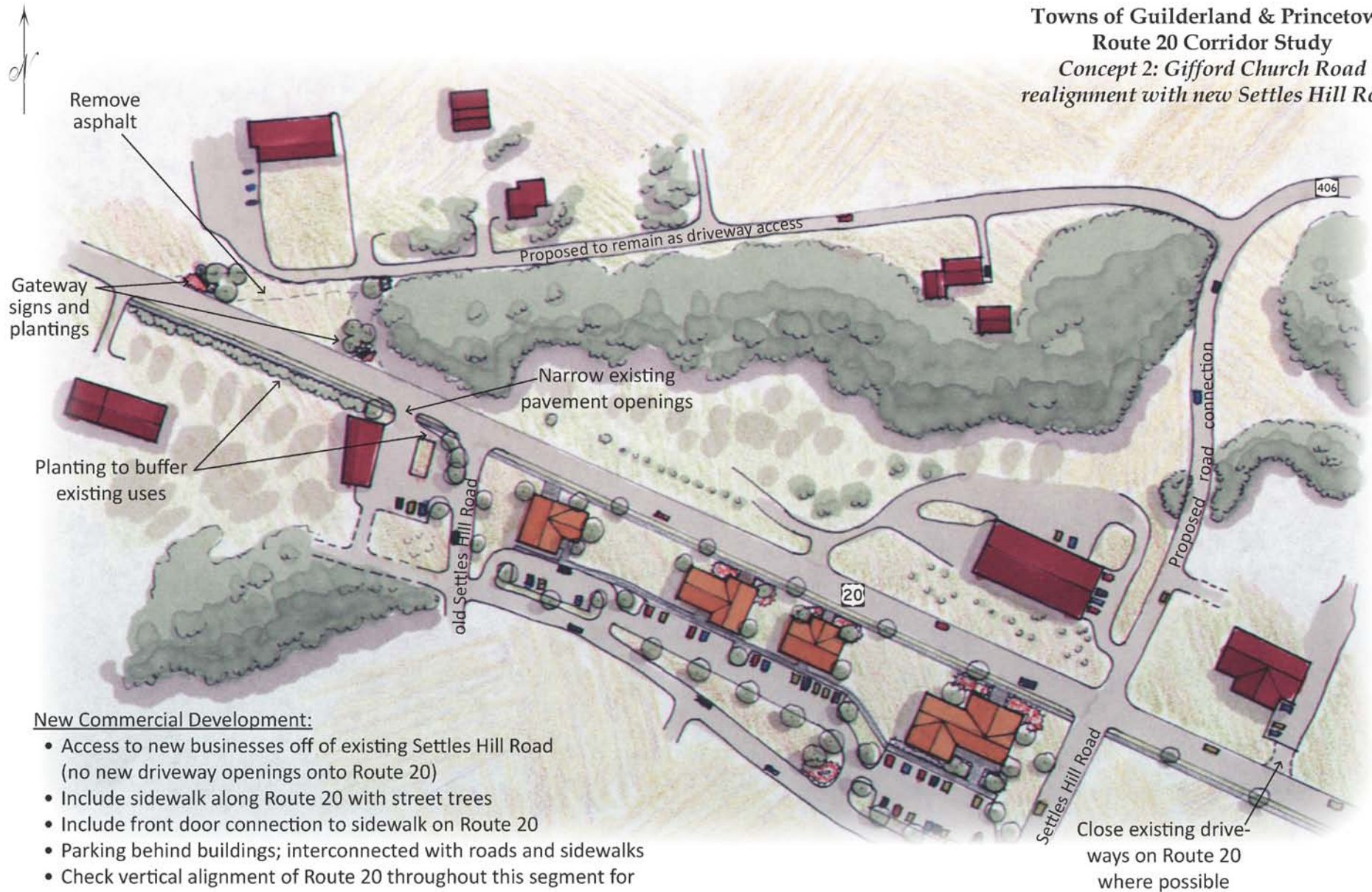
Long-Term:

Two conceptual alternatives for the realignment of the Giffords Church intersection have been developed. Both concepts address the need for realigning the intersection for better visibility and creating a four-way signalized intersection. These alternatives are discussed below and they are illustrated on the following pages.

- Concept 1 (see page 26) realigns Giffords Church Road with the old Settles Hill Road, creating a small gateway green space in the triangle area. With an intersection already in place here (much of the ROW already in public ownership) and a gentler stream crossing, this alternative might be less expensive.
- Concept 2 (see page 27) realigns Giffords Church Road with the new Settles Hill Road, eliminating the triangle intersection. This concept creates an opportunity for a gateway type of amenity near the triangle area in the unused right-of-way. This concept might be more costly as it requires a longer stream crossing along the steeper slopes in this area.



Towns of Guilderland & Princetown
Route 20 Corridor Study
Concept 2: Gifford Church Road
realignment with new Settles Hill Road



New Commercial Development:

- Access to new businesses off of existing Settles Hill Road (no new driveway openings onto Route 20)
- Include sidewalk along Route 20 with street trees
- Include front door connection to sidewalk on Route 20
- Parking behind buildings; interconnected with roads and sidewalks
- Check vertical alignment of Route 20 throughout this segment for visibility issues

For conceptual planning purposes only

b. Dunnsville Road Intersection: RT 20 & RT 397 (Dunnsville Rd) in the Town of Guilderland

The Dunnsville Road intersection is currently a four-way intersection with a flashing yellow signal. There is poor visibility turning east from 397 north due to an obstruction (light pole). There are currently no sidewalks, crosswalks or pedestrian facilities in this hamlet area. Of particular concern is the large number of individual driveways that exit onto RT 20 west of the intersection. These driveways are potential conflict points. Recommendations for this intersection are focused on improving the experience of the Dunnsville hamlet for the residents who live here. This includes slowing down the traffic as it enters the hamlet and residential areas and creating more opportunities for pedestrian travel. The area surrounding the hamlet is also identified as a potential hamlet growth area and thus it is important to consider the long-term needs for road and sidewalk connectivity in this area.



A roundabout in a similar land use context to the Route 20 Corridor. This roundabout is located in Voorheesville, NY.

Short-Term:

- The Town of Guilderland should pursue with NYSDOT the relocation of the traffic light pole at the north-east corner of the intersection to improve visibility and safety.
- A change from flashing to fully-signalized intersection could improve the safety in the short term.

Long-Term:

- Reconfigure the intersection with central medians, sidewalks, and crosswalks. Alternatively, a roundabout with a rural character might be developed in this area to help with traffic calming with a roundabout.

c. RT 20 & RT 158 (Guilderland Ave) in the Town of Guilderland

The intersection of RT 20 and RT 158 is currently a 4-way signalized intersection. There is a right turn lane for RT 20 westbound traffic entering RT 158 north. This intersection currently operates at LOS B for evening peak traffic, which means that there is a short (10-20 second) delay per vehicle at the intersection. The intersection also has an accident rate that is slightly higher than the state average. While the intersection is not currently a major problem, it is expected to become more unsafe and the delay time to increase as the corridor becomes developed. In the short-term, this intersection can be improved with sidewalks, crosswalks and a central median to allow for pedestrian activity. In the long-term, the intersection might be reconfigured as a roundabout.

Short-term:

- Develop sidewalks and crosswalks along with central medians at this intersection.

Long-term:

- The reconfiguration of the intersection with a roundabout is recommended a long range solution.

5. Rt. 20 Sidewalk

To provide opportunities for safe travel along RT 20, an approximately 8' sidewalk is recommended along the length of the road. The sidewalk would be constructed in the existing right-of-way. A buffer would be created between the sidewalk and the roadway and might vary according to the context of the road and surrounding development. For example, along the rural open areas, the buffer might consist of a guide rail fence with low plantings so as to maintain views of the Helderbergs across open lands. In other areas, taller trees, vegetation, and guide rails may be used to buffer the sidewalk from undesirable elements or improve safety. A variety of buffer materials would also help to diversity the experience for sidewalk users. The

sidewalk would transition to a more formal sidewalk as it approaches the main intersections at hamlets, where traditional sidewalks and crosswalk systems are recommended. The sidewalk may be constructed in phases based on development projects and/or neighborhood demand for facilities.

In the short-term, the sidewalk segment between Dunnsville Hamlet and the intersection of RT 158 and RT 20 should be developed. This would provide a pedestrian connection for the residents of this area. As the Dunnsville hamlet expands, sidewalks might be extended to connect east to Guilderland Town Hall and west to the Giffords Church hamlet.



This illustration depicts the Route 20 sidewalk concept for Guilderland and Princetown.

B. Land Use Plan Concepts and Recommendations

1. Support the Development of a New mixed-use Hamlet (or hamlet expansion) near Dunnsville Hamlet

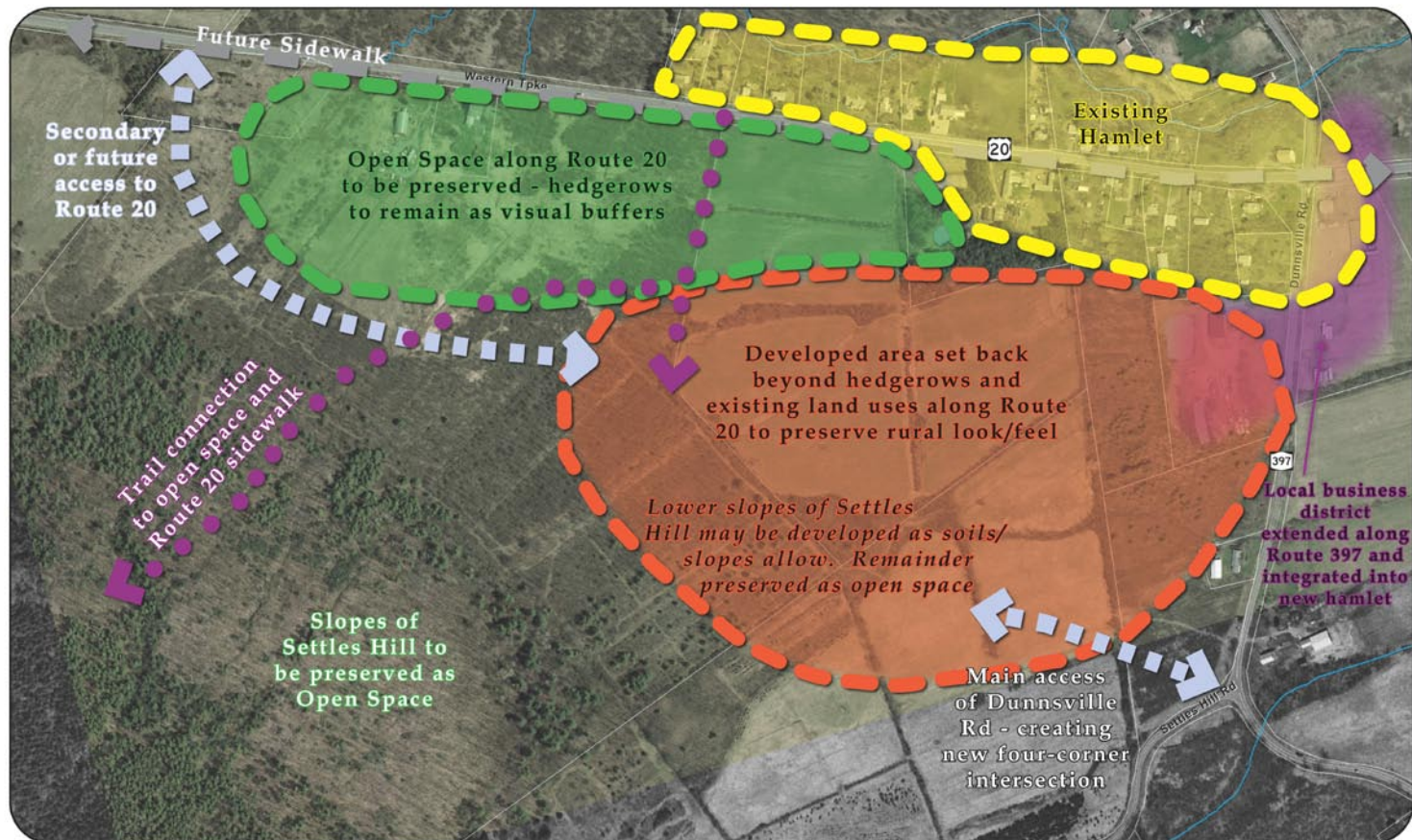
A new mixed-use hamlet is allowed in the Rural 3 district under the country hamlet floating zoning district of the Town of Guilderland zoning law. A country hamlet would be consistent with the design principles of traditional neighborhoods and would feature compact, human-scale design; mixed uses; mixed housing styles and types; and interconnected streets and sidewalk networks; among other features. According to the Guilderland zoning law, prerequisites for a country hamlet include a minimum lot size of 160 acres; capacity and access to water and sewer; substantial frontage on and access to a county or state highway; and compatibility with the surrounding area. There is also a provision in the code for smaller acreage development sites if the Town Board determines that the site is next to an existing hamlet. The access to water and sewer is probably the most important factor for siting a country hamlet in the RT 20 corridor.

Currently, there are a few undeveloped sites in the corridor that meet the requirement for a country hamlet. While it is not clear at this time where the country hamlet would “land,” a conceptual illustration of a future country hamlet in the vicinity of the Dunnsville Hamlet has been developed. This location was selected because it is in close proximity to the existing Dunnsville Hamlet.

The hamlet illustration depicts a mixed-use development with interconnected streets. Neighborhood-scaled commercial uses such as a convenience store, bakery or professional office would be integrated into the hamlet in appropriate location(s). The hamlet would have a traditional neighborhood feeling, with narrow roads and connected pedestrian sidewalks and trails. It might include a mix of home styles including town homes, cottages, and two-family homes. The hamlet would access RT 20 from Dunnsville Road, creating a 4-way intersection at the current Dunnsville Road/Settles Hill Road intersection. Secondary access to RT 20 may be developed if necessary. Large areas of open space would be preserved along the frontage of RT 20 where there are currently farm fields and rural homes. Trails would be developed along the south side of the hamlet, along the base of Settles Hill and would connect to the proposed sidewalk parallel to RT 20. The hamlet would likely be serviced with municipal water (connections from Princetown) and might use on-site wastewater treatment.

Future Hamlet near Dunnsville: Conceptual Graphic

This image shows how a future hamlet in the Dunnsville Hamlet area might be sited using the town's country hamlet floating zone. This example would require cooperation between multiple land owners as one single parcel would not meet the acreage requirements. As shown in the illustration, the developed area is supported with open space areas, including the preservation of open fields and views along RT 20, as well as the slopes of Settles Hill which might become a passive recreational asset for this neighborhood. *Please note that this graphic is illustrative only. It does not depict the landowners' intentions for the site; nor is this illustration being reviewed by the town for approval.*

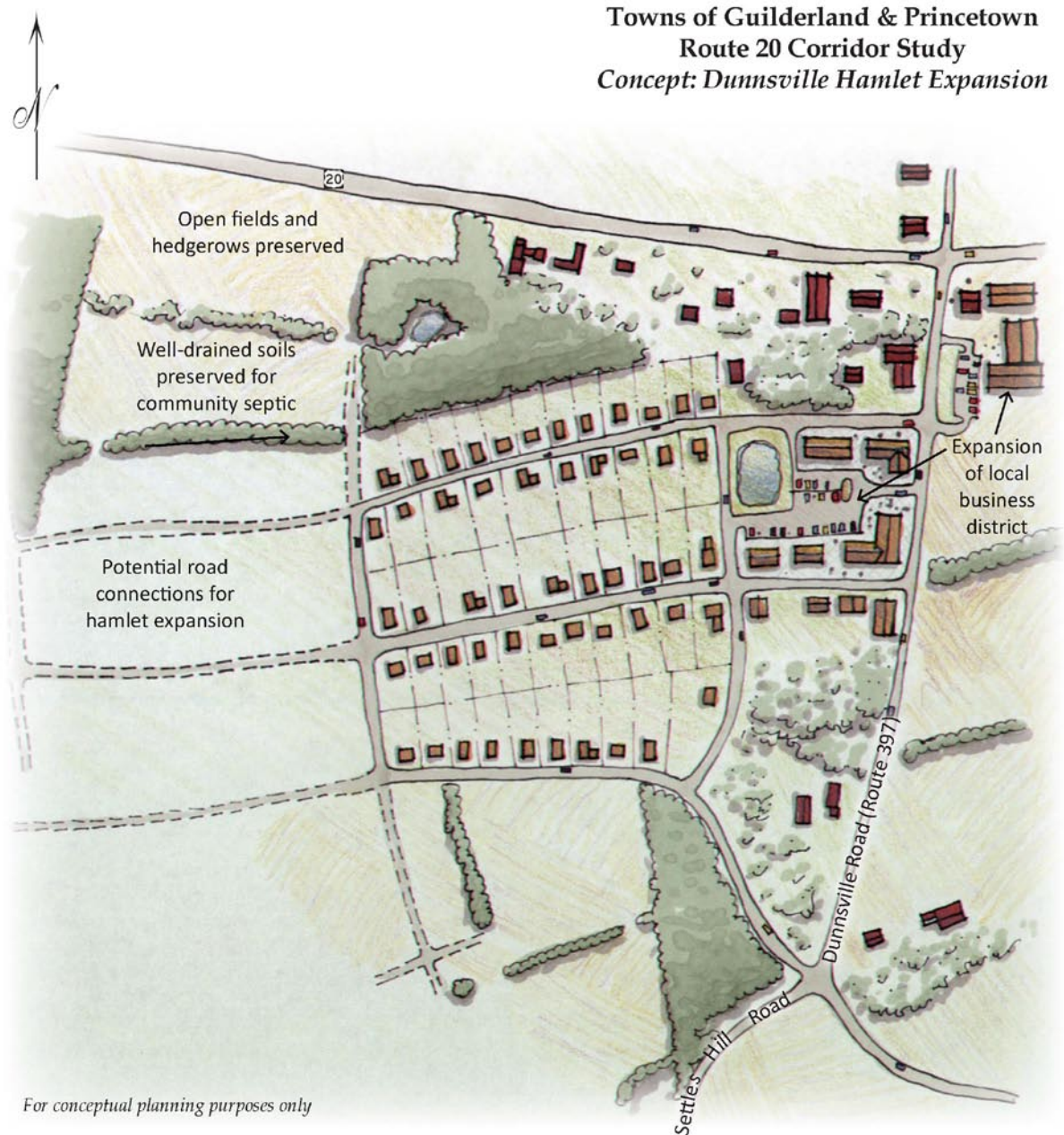


Map prepared by:
Bokan Planning Associates, LLC
Planning Community Futures

Towns of Guilderland & Princetown
Route 20 Corridor Study
Future Hamlet Area Concept



Future Hamlet near Dunnsville: An illustrative rendering of how a future hamlet could take shape near Dunnsville. This graphic shows a new community that includes commercial and residential development, with commercial development extending along RT 20 and Dunnsville Road. As the hamlet grows, roads (shown here as dotted lines) could be extended along the same grid pattern, and additional lots and homes added. Well-drained soils on the north end of the site have been reserved for a community system. Such a system would require a dedicated long-term financing and maintenance entity, such as the formation of a sewer district, in which residents would be financially responsible for maintenance and upgrade of facilities. Trails would connect the development to the preservation area (surrounding the site) as well as to the sidewalk along RT 20. *Please note that this hamlet graphic is illustrative only. It does not depict the landowners' intentions for the site; nor is this illustration being reviewed by the town for approval.*



Recommendations:

- Work with interested landowners to determine the feasibility of creating a mixed-use country hamlet and discuss the required infrastructure needs (water and sewer).
- If a country hamlet alternative comes to fruition, the future road system should be clearly depicted on a map. Rather than creating dead-end roads or cul-de-sacs, the map should indicate opportunities for connectivity and easements should be required from the landowners to allow for connection of roads in the future, should an expansion of the hamlet take place.

2. Enhance Existing Commercial Development On RT 20

There are three main commercial areas along the RT 20 corridor - two local business districts in the Town of Guilderland and a larger commercial area in the Town of Princetown. Currently, the commercial establishments primarily service automobile-related uses such as gas stations and auto repair shops. Community members in both Guilderland and Princetown have expressed an interest in neighborhood-scaled uses such as a small grocery or convenient store. If a country hamlet were to be developed in the Guilderland portion of the corridor, there may be need for more diverse neighborhood-scaled commercial services. The types of uses that could be allowed in the country hamlet include: bank, bakery, pharmacy, medical/dental offices, ice cream shops, general offices (attorneys, insurance) small grocery, and personal services (such as a barber shop or beauty salon).

In order to preserve the function and character of the corridor, it is not recommended that commercial uses be allowed to spread throughout the corridor. This would result in an undesirable “strip” commercial character and would put more stress on the existing roads and infrastructure. It may also create competition for the commercial area in Princetown. Instead, areas for commercial expansion can be designated surrounding the existing local business zoning districts in Guilderland. These expansion areas would serve local residents. The map on page 32 shows how the commercial area might be expanded at the intersection of RT 20 and RT 397, in conjunction with the development of a Country Hamlet. This image shows commercial development with frontage on RT 20 as well as commercial development along RT 397, both with access on RT 397 in order to avoid additional automobile access points on RT 20.

Route 20 Land Use and Transportation Study

Rather than saturating the market with the same type of commercial development that is seen elsewhere along RT 20 (and other major roadways), the town can support the concept of “country retail” in the Rural-3 District. This would provide landowners with more options for commercial development without negating the concept of Rural Guilderland. Country retail might include uses such as farm markets/stores, bed and breakfast, landscaping or plant nurseries, or antique shops. The character of the country retail development can be maintained through the use of the commercial design guidelines, and would maintain larger lot sizes and large green/landscaped setbacks along RT 20.

Recommendations:

- Modify the R-3 Zoning District in Guilderland to support the “country retail” concept along RT 20 in Rural Guilderland.

Changes to be explored for the RT 20 Corridor in the Guilderland R-3 District include:

Permitted Uses:

- Home Occupations: Increase the number of non-family employees allowed in home occupations. Home occupations currently allow up to 3 non-family employees.
- Farm Stands: increase the square footage allowance for farm stands. Farm stands (or sale of agricultural products) are currently allowed in the district, but stands can not exceed 400 square feet.

Special uses:

- Intensify the “Country Store (retail)” use which allows for the sale of “agricultural and arts and hand-crafted products produced locally (within Rural Guilderland).” This use is currently allowed in an enclosed structure not to exceed 5,000 square feet and non-agricultural related retail products can not exceed more than 20% of sales floor space. The square footage and the percentage allowance for non-agricultural (non-local) retail could both be increased (possibly to 40%) to make the business venture more viable.
- Decrease the requirements for the percentage of gross sales that must be locally sourced on grower-owned and operated commercial farm markets, garden centers, lawn and garden supply centers and sale of related products.

Route 20 Land Use and Transportation Study

- Currently, at least 60% must be locally grown, produced or raised, processed or manufactured. This could be reduced to 40 or 50%.
- Consider allowing the production of wind, solar, biomass, and other non fossil-fuel energy in the R-3 district (and other appropriate districts). The town may want to consider adopting a local law which further defines the allowable scale, design and processes for review of such facilities.
 - Meet with landowners in the vicinity of Dunnsville hamlet to discuss the potential for zoning changes. Update the boundaries of the Local Business district as appropriate. The district could be expanded to the south along Dunnsville Road. The map on page 32 shows a potential expansion of the Local Business district. Identify and prioritize commercial uses that might be allowed such as a bakery, coffee shop, hair salon, general offices, or a neighborhood-scale deli or grocer. Also see recommendations for improving the Local Business district regulations in the *Guilderland Hamlet Neighborhood Plan*.
 - Adopt Commercial Design and Access Management Guidelines for the RT 20 corridor. See Appendix G, page 59.
 - Work with landowners through the site planning process to consolidate parking and access (driveways) along RT 20 and create service roads where appropriate. See the Appendix F, Commercial Design and Access Management Guidelines, page 57, for more information.
 - Protect existing residential uses along RT 20 by ensuring that a buffer between commercial/industrial uses is provided when lands are subdivided. This could be accomplished through zoning changes along Route 20 that require an adequate buffer of a subdivision to protect residential uses.

3. Open Space and Farmland Protection

There are several important open spaces and natural resources in the corridor, including Settles Hill, the Indian House Creek, lands surrounding the Watervliet Reservoir, and several working farms that also provide views of the Helderbergs and

downtown Albany. Through many of the Guilderland planning efforts, including the workshop for this project, community members have expressed a desire for conservation of these lands and resources. These properties are owned by private landowners.

As part of the 1999 Comprehensive Plan process, the Town of Guilderland conducted a survey by mail to poll residents' attitudes towards community planning and development. One of the survey findings was that the priorities for Guilderland's future are to develop a plan to protect drinking water (89% of residents polled said it was a high priority) and preserving open spaces (54% said it was a high priority and 35% said it was a moderate priority). In addition, approximately 52% of residents polled "would be willing to pay a moderate increase in taxes to permanently protect open spaces in the Town of Guilderland."

Throughout the various planning efforts that have taken place in the town, several of the landowners in Guilderland have also expressed interest in conservation. Conservation options include donation (or partial donation) or sale of a conservation easement. Landowners are paid for the sale of a conservation easement. This payment is the difference between the full market value (full development) and the restricted (conservation) value of the property. Some of the natural areas and farmlands may also be protected through conservation development, which is enabled under Guilderland zoning law.

Conservation easements can be purchased by a municipality or by a conservation organization that focuses on land conservation (called a land trust). If the community is interested in preserving large expanses of open space, an alternative for the Town of Guilderland would be to establish a local fund for land or conservation easement acquisition.

Recommendation:

- The Town of Guilderland is now in a good place to explore opportunities for land conservation by conducting a more detailed poll of the community to determine interest and willingness to pay for land conservation. If the poll indicates that the community is willing to pay a given amount for open space conservation, the town may consider financing options. If specific conservation projects are identified, working with landowners, and placed before the community, this might garner more support (in contrast to approving a lump sum without identifying projects).

4. Protection of the Watervliet Reservoir Watershed

The Watervliet Reservoir is a priority drinking water source for many people. Preserving the quality of the water is critical to the Town of Guilderland as well as the City of Watervliet. The quality of the water is affected by development, in particular as additional impervious surfaces such as driveways, roads and houses are added to the landscape. Pollutants that run off of impervious surfaces, including road oils and chemicals, and fertilizers and pesticides used in agriculture, lawns and golf courses, eventually reach the reservoir. Preserving wetlands and other lands surrounding the reservoir helps to purify the drinking water and maintain its quality for drinking. The Towns of Guilderland and Princetown can work collaboratively with the City of Watervliet to preserve lands around the reservoir.

Recommendations:

- Better site design: Review and modify land use and zoning laws to improve their effectiveness towards protecting water quality (for both the Watervliet Reservoir watershed and ground water resources). The *Better Site Design* guidebook developed by the Center for Watershed Protection provides a framework for this review. *Better Site Design* is a manual that can be used to identify how local development codes can be changed to produce “better site design,” thus reducing impacts on water resources. The goals of better site design are to reduce impervious cover; increase conservation lands; and develop more effective stormwater management. According to *Better Site Design*, one of the first steps to changing local regulations is to develop a local roundtable; this is a group of individuals and stakeholders who can provide input into local regulation modifications such as planning board, health department and highway department officials; local developers; land owners; and natural resource professionals. Better site design helps to maintain drinking water quality and it can also provide cost-savings to landowners and developers, for example by eliminating requirements for excessive paving, such as unnecessary parking requirements or excessive road widths in subdivisions. The savings may be up-front in construction costs or long-term as maintenance costs are reduced. The goal of better site design is not to add another complicated layer of regulations to development but rather to simplify and clarify existing regulations and expectations.

5. Gateways and Signage Improvements

Gateway and signage improvements are recommended for both the Dunnsville and Gifford Hamlets for aesthetic purposes. These improvements will also serve as traffic calming measures in the corridor. Examples of gateway improvements might include a sign with planting (for example, “Welcome to the Gifford Business District”) or it may include a gazebo, clock, or other built feature that adds interest to the landscape. Gateway improvements in Gifford should focus on announcing the business district and should be scaled as such. Gateway improvements in Dunnsville should announce the residential/rural hamlet. Gateway improvements can be made as funds are available or as intersection improvements are made during road construction or development. Below is a summary of the proposed character of the gateways/nodes:

Gifford Commercial Gateway

Character: a business district that supports rural/agricultural uses; professional uses such as offices and banks; and neighborhood commercial uses (restaurants, bakeries, convenience stores, etc.)

Dunnsville Hamlet

Character: a rural hamlet with a mix of neighborhood commercial uses and residential uses in a “country hamlet” setting; interconnected streets; pedestrian connections and amenities; and a human- scaled design with surrounding open space

Watervliet Reservoir Gateway

Character: a center of convenience for the surrounding residential development as well as for passing travelers; providing appropriately-scaled convenience stores and neighborhood commercial establishments



An example of a gateway amenity that might be appropriate for the rural area of Route 20.

- * Gifford Commercial Gateway**
- Character: a business district that supports rural/agricultural uses; professional uses such as offices and banks; and neighborhood commercial uses (restaurants, bakeries, hair salons, convenience stores, etc.)*
- Realign and signalize the Giffords Church intersection and develop pedestrian amenities
 - Adopt and implement the Access Management and Commercial Design Guidelines for Route 20
 - Work with landowners to implement access management improvements
 - Develop a gateway feature to announce the business district



- * Dunnsville Hamlet**
- Character: a rural hamlet with a mix of neighborhood commercial and residential uses; interconnected streets; pedestrian connections and amenities; and a human-scaled design with surrounding open space*
- Expand the local business zoning district in the Dunnsville Hamlet
 - Create a four-way fully-signalized intersection
 - Develop pedestrian amenities (sidewalks, crosswalks) and connect them with future development
 - Apply traffic calming techniques such as narrowing the travel lanes and amenities such as street trees and signage to define the hamlet area

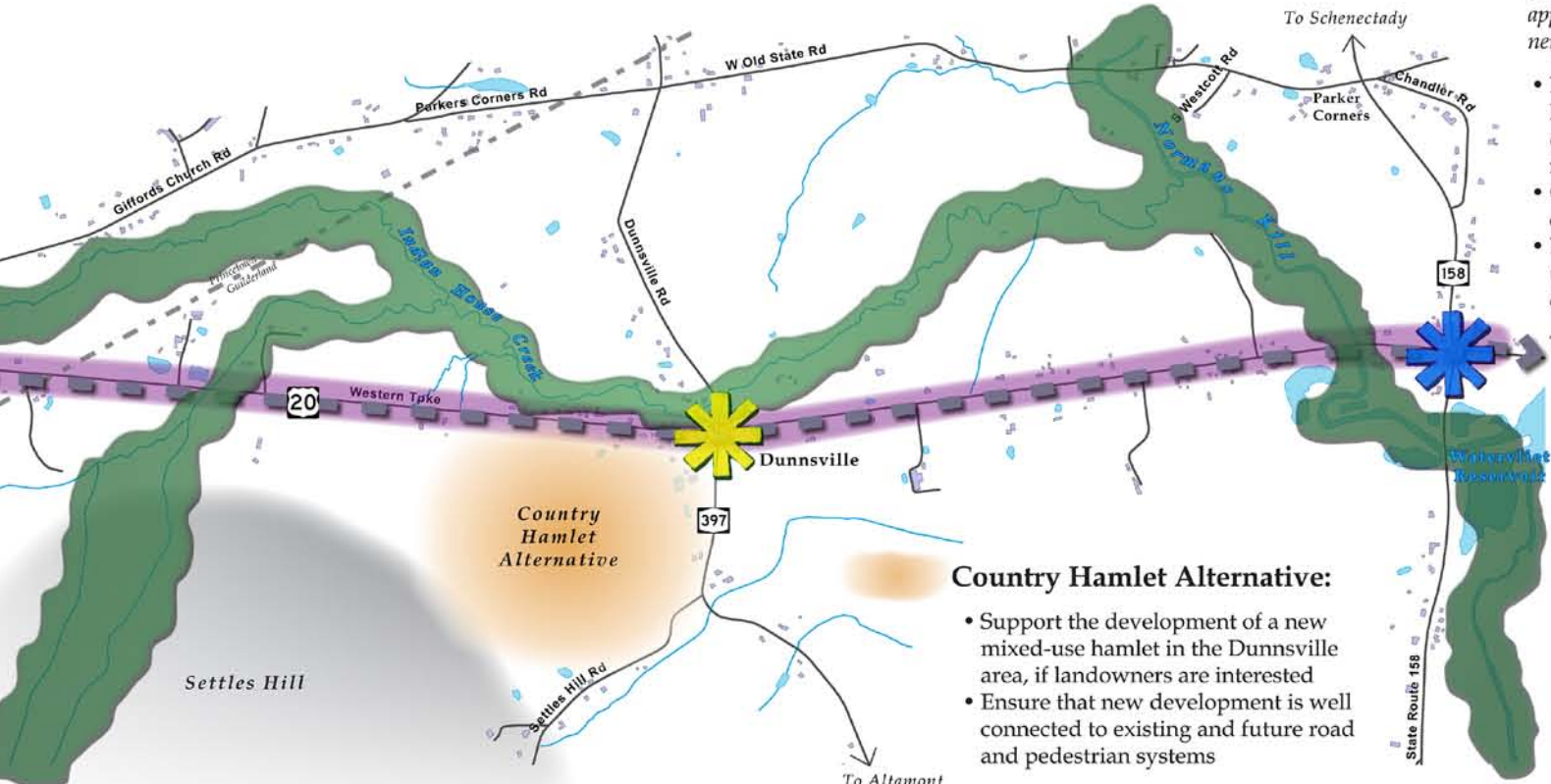
- Route 20 Corridor**
- Increase speed enforcement and patrolling to influence travel behavior along the corridor
 - Ensure that there is adequate shoulder width along the length of the roadway (4-5 feet recommended)
 - Develop raised landscaped medians, crosswalks, and sidewalks; and other traffic calming improvements at all three intersections along the corridor
 - Maintain commercial “nodes” rather than allowing commercial uses to spread throughout the corridor
 - Adopt the Access Management and Commercial Design Guidelines for Route 20
 - Support “country retail” uses



- * Watervliet Reservoir Gateway**
- Character: a center of convenience for the surrounding residential development as well as for passing travelers; providing appropriately-scaled convenience stores and neighborhood commercial establishments*
- Explore options to expand the local business district to allow for desirable uses such as a farm store or neighborhood-scaled convenience store
 - Consider a roundabout or other traffic calming improvements
 - Develop pedestrian amenities (sidewalks, crosswalks) and connect to existing facilities near Town Hall



- Route 20 Sidewalk**
- Develop a sidewalk along Route 20 that takes on the rural character of the surrounding area
 - Build the sidewalk in phases with priority given to the Dunnsville Hamlet area and future hamlet development areas



- Country Hamlet Alternative:**
- Support the development of a new mixed-use hamlet in the Dunnsville area, if landowners are interested
 - Ensure that new development is well connected to existing and future road and pedestrian systems

- Rural Guilderland**
- Maintain rural Guilderland character and land use patterns, agricultural lands and natural resources
 - Support conservation development and/or country hamlet development
 - Develop a land conservation funding source to purchase conservation easements from willing landowners



- Watershed Protection:**
- Preserve lands associated with the Watervliet Reservoir and its tributaries
 - Consider revising local laws to adopt “better site design” standards

**TOWNS OF GUILDERLAND & PRINCETOWN
ROUTE 20 CORRIDOR STUDY
ROUTE 20 CORRIDOR VISION MAP**

Map prepared by:
Behan Planning Associates, LLC
Planning Community Futures

For conceptual planning purposes only

Part IV: Conclusions and Implementation

The RT 20 corridor is an important roadway that serves local and regional traffic. Some of the pragmatic concerns raised by the community relate to issues such as speed enforcement and removing large vehicles from the road. These issues can be addressed with increased enforcement and communication with local and state agencies. More far-reaching concerns along the corridor are related to the future use of the lands surrounding the corridor – how will these lands be developed and what types of stress might this put on to the RT 20 corridor? How can the aesthetics of the corridor be improved? How can the function and safety of the corridor be maintained or improved as more development is added? These concerns are discussed in Part III: Land Use and Transportation Plan. Below is a brief summary of the recommended actions and potential costs.

Recommended Next Steps:

Short-Term:

1. Increase speed enforcement and patrolling to influence the travel behavior in the RT 20 corridor. (Guilderland and Princetown)
2. Pursue discussions with the New York State Thruway Authority (NYSTA) to widen the toll booths at exit 25A to allow modular home trailers to use the thruway and thus avoid RT 20. This would improve the safety and performance of the arterial. This should be considered a high priority because it would provide significant results for both towns for no cost. (Guilderland and Princetown)
3. Explore opportunities for shared services between Guilderland and Princetown for water and sewer, road maintenance and other related services. New York State's Shared Municipal Services Incentive Program offers grants that might support these efforts. Shared services grants should be explored during the next cycle.
4. Maintain dialogue with New York State Department of Transportation regarding future schedules for transportation improvements along RT 20. This will help both towns to plan ahead for improvements along the roadway and coordinate local efforts and visions with the state's goals. (Guilderland and Princetown)

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5. Adopt design guidelines and access management guidelines for the RT 20 Corridor (Appendix F). These guidelines should be adopted by the Town of Guilderland and the Town of Princetown and applied towards development and improvements that take place on the RT 20 corridor. The guidelines would supplement the existing design guidelines for Guilderland, providing more specific guidance for development along RT 20. (Guilderland and Princetown)
6. Seek funding to develop intersection and roadway improvements, as depicted in this plan. Priority should be given to addressing the safety problems with the Giffords Church intersection (through realignment). Beautification efforts should be done in conjunction with realignment of the intersection. (Guilderland and Princetown)
7. Conduct a poll to gauge community support for developing a conservation fund in the Town of Guilderland. This fund would help to purchase the development rights on priority community open space properties from interested landowners on a voluntary basis. (Guilderland)
8. Outreach to landowners to discuss opportunities for creating a mixed-use hamlet in the Dunnsville area. If this is of interest, work with landowners to refine a plan that will meet their goals and provide benefit to the community.

Medium-term:

1. Construct the RT 20 sidewalk as development occurs and as improvements are made in the corridor. The sidewalk may be phased or constructed in segments as development plans are brought forth or as funding is available for construction. Ensure that development plans provide clear indication of how their pedestrian facilities will connect to the sidewalk. (Guilderland and Princetown)
2. Modify or expand the Local Business district within the Dunnsville Hamlet area. This should be done in conjunction with larger-scale development planning (such as the country hamlet). (Guilderland)
3. Modify the R-3 District in Guilderland to allow the “country retail” concept along RT 20. See pages 34-36 for more information. This can be accomplished through zoning revisions for Route 20 which addresses the allowed and special uses

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within the zoning code. The access management and commercial design guidelines can also be incorporated into these zoning changes.

4. Work with landowners through the local site plan approval process in the Gifford's Church hamlet to improve access through consolidating driveways, creating shared access roads, and other access management techniques.
5. Create aesthetic/gateway improvements at each of the three intersections in the study area.
6. If a conservation fund is supported by the community, implement land conservation projects as opportunities arise with interested landowners.

Long-term:

1. Complete improvements at each of the three intersections in the RT 20 Corridor, coordinated with funding opportunities and development plans.
2. Pursue discussions with the NYSDOT to reduce the speed limit on RT 20 (possibly to 45 mph) if and when the road segment is redesigned.
3. Pursue the potential for roundabouts at two intersections: RT 20/RT 158 and RT 20/RT 397.
4. Complete the sidewalk on RT 20 between Giffords Church Hamlet and the Guilderland Town Hall.

Route 20 Land Use and Transportation Study

Construction Cost Estimates

Order-of-magnitude cost estimates were developed for the sidewalks, crosswalks, sidewalks, roundabouts and other improvements that are recommended for the corridor. Features such as embankments, retaining walls, drainage facilities, etc., can significantly increase the cost of individual segments. Aesthetic treatments, such as brick pavers in the maintenance strips, also increase costs significantly. The final cost will also be influenced by the process through which they are constructed; public projects advanced through NYSDOT with Federal funding could be more costly while projects achieved through developer-funded mitigation could be less costly.

Item	Unit	Per unit cost (in dollars)	Quantity	Total (in million dollars)
8 ft wide asphalt multi use path from Giffords Church Rd. intersection to RT 158 intersection (approximately one fourth of this is in Princetown)	Linear foot	\$100 - \$125	Approximately 3.5 miles	\$2.0 – 2.5
Intersection improvements with raised landscaped median, sidewalk, crosswalk, planter strip, signs, etc. (Guilderland)	Number of intersections	\$500,000 - \$750,000	2	\$1.0 – 1.5
Roundabouts (Guilderland)	Number of roundabouts	\$1 - \$1.5 million	2	\$2.0 – 3.0
Realignment of Giffords Church Rd: Option 1 (Princetown)	N/A	\$250,000	1	\$0.25
Realignment of Giffords Church Rd: Option 2 (Princetown)	N/A	\$500,000	1	\$0.5

Funding Opportunities

There are a number of potential funding sources that may be available for some of the recommended action items. They include both public and private sources. Federal funds are available through the Capital District Transportation Committee (CDTC). Most of the recommended projects can compete for TIP funds for bike-pedestrian improvements, roundabouts, spot improvement, enhancement, safety, etc. The towns should pursue with CDTC during the next round of TIP applications. There will be a 20% match obligation for the towns. Some of the projects in the Town of Guilderland that have received TIP funds include, New Karner Road Corridor Improvement, Carman Road Sidewalks, and the RT 7 Bridge Replacement over I-890. Some of the projects in the Town of Princetown that were approved for TIP funds include the RT 7 Bridge Replacement over the Normanskill and the Mohawk Towpath Guide Book & Web Design.

Other funding sources include state funds from NYSDOT, grant programs and legislative member items. Use of local funds has the advantage of generally being the fastest way to progress projects. At the same time, this requires the local implementer to fund projects entirely with its own resources. This may not be a desirable approach for larger-scale projects. From the set of strategies developed in this report, among the primary candidates for pursuit solely with local funding are some of the shorter-length or intersection sidewalk construction projects, signage improvements, and landscaping. In addition, a number of the ordinance-related strategies set forth in this report would likely be progressed through local resources as the necessary development work would be undertaken by town staff in the courses of their normal duties. Increasingly many municipalities are looking for public-private partnerships and developer-funding opportunities to meet transportation costs. This may be in the form of impact fees as developed through a Generic Environmental Impact Statement or special assessment districts. Both towns could pursue these options. This could particularly be useful for intersection improvements and access management features.

Lastly, New York State offers a grant program for shared municipal services under the Shared Municipal Services Incentive Program. This program could be used to conduct a feasibility study for shared services, particularly for water services along Route 20.

Appendix A: Public Workshop Summary—November 15, 2007

RT 20 Land Use and Transportation Study

The first public workshop for the CDTC RT 20 Land Use and Transportation Study in the Towns of Guilderland and Princetown was held on Thursday, November 15, 2007 at the Cider House Restaurant (Orchard Creek Golf Club) in Altamont. The workshop was attended by more than 50 residents and stakeholders.

The workshop began with a presentation by the consulting team of Behan Planning Associates and the Capital District Transportation Committee (CDTC). The presentation highlighted key issues and opportunities along the 4-mile corridor relating to topics such as:

- Design and aesthetic improvements for commercial development
- Identification of a new residential or mixed-use hamlet in Guilderland
- Creation of gateways, signage or other features to set aside and improve aesthetic appearance in distinct areas of the towns (such as hamlets and commercial areas)
- Natural resource and viewshed preservation opportunities
- Transportation concerns and opportunities for pedestrians/bicyclists along the corridor

Results of a transportation analysis were also presented by CDTC. The corridor as a whole is functioning well when compared to other similar corridors. The corridor will be able to absorb additional traffic volume; however, when volume increases, function will also be degraded. There are safety concerns along some segments of the corridor. The segment between Rt. 406 and Guilderland and between Rt. 406 and Duanesburg has slightly high levels of accident rates (compared to New York State). Also of concern, a high number of driveways in two segments of the corridor (between Rt. 406 and Rt. 397 and between Rt. 397 and 158) present a safety concern. The project will explore design and access management solutions for these safety problems. Also discussed was the lack of pedestrian facilities (such as crosswalks, sidewalks, striped bike lanes or shoulders) and potential options for improving this.

After the presentation, residents met in smaller groups with facilitators from Behan Planning and CDTC to discuss concerns and opportunities for the corridor in more depth. Many participants commented on the high speed of vehicular traffic along the corridor, as well as the high volume of tractor trailer traffic and oversize vehicles carrying pre-fab houses. Many residents noted that

Route 20 Land Use and Transportation Study

there is a need to welcome and embrace well-planned growth. With this growth may come the need for water (and potentially sewer) services. Water lines have already been extended to the western edge of Princetown. Many also noted the need to preserve the “rural character” of the landscape such as farms, rural historic homes, views of the Helderbergs, creeks and other water features.

With respect to commercial development, the types of commercial uses were discussed at length. Participants from Princetown noted the need to review the allowed uses to ensure that they are meeting the community’s needs. The appearance of commercial development was also discussed and in general participants were in favor of a rural character to development, such as through the use of landscaped setbacks. The need for a transition between the rural Guilderland area and the commercial corridor of Princetown was also noted.

Several groups discussed the concept of clustering development into a new hamlet. A potential location near the base of Settles Hill was discussed in one group. This group discussed keeping any hamlet development near the base of the hill and off of RT 20, while preserving views from both RT 20 and Settles Hill. Another group discussed the idea of creating a local park at the top of Settles Hill so as to maximize the view and increase recreational opportunities in the area. The consultants noted that these parcels are all owned by private owners, and therefore landowners should be consulted before any concepts are brought forth in the plan.

Also of concern for many groups was the high number of curb cuts (especially in the residential area surrounding Dunnsville Hamlet), which are a safety issue. Some wondered if there are alternatives for improving the safety issues associated with the large number of curb cuts. Options discussed include slowing down traffic by using design features; access management improvements such as parallel roads and increased road connectivity; and reducing the speed limit. The consultants will explore options further.

Other questions and areas of concern raised with respect to transportation include:

- Bike/ped traffic off RT 20, North-South on utility corridors; connect to Guilderland town hall and Altamont. Are there any security concerns with using the utility ROW?
- Bike traffic on RT 397 should be accommodated
- Potential for roundabout at RT20/RT158
- Design features on Rt. 20 to reduce speeds

Route 20 Land Use and Transportation Study

- Better speed enforcement

With respect to bicycle and pedestrian facilities, participants acknowledged that there is a clear lack of such amenities in this area. Some participants wondered if there is a need while others noted that there are already bikers using Rt. 20 and other areas in the corridor. In designing any such improvements, it will be important to balance the need for pedestrian/bike amenities with the suburban/rural character of the corridor.

The next step for the project is for the consultants to develop a conceptual plan for the corridor.

Appendix B

The Level of Service (LOS) Thresholds

The RT 20 roadway segment LOS results are based on the following average travel speed ranges outlined in the *Highway Capacity Manual* for Class I Urban Streets:

Level-of-Service	Intersection delay in seconds
A	> 42
B	> 34-42
C	> 27-34
D	> 21-27
E	> 16-21
F	≤ 16

Signalized intersections

Level-of-Service	Intersection delay in seconds/vehicle
A	≤ 10
B	> 10-20
C	> 20-35
D	> 35-55
E	> 55-80
F	> 80

Non-signalized intersections

Route 20 Land Use and Transportation Study

Level-of-Service	Intersection delay in seconds/vehicle
A	≤ 10
B	> 10-15
C	> 15-25
D	> 25-35
E	> 35-50
F	> 50

Appendix C

Crash Data for the years 2004 to 2006

Link Crashes	Total Crashes	Avg Annual Crashes	Injuries	Fatalities	Property Damage Only	Bike/ Pedestrian Involved	AADT	Miles	Million Vehicle Miles Per Year	Acc/ MVM	Crash Type	Collision Type	Roadway Surface	Vehicle Type	Crash Time	Cause
Duanesburg Townline to NY 406	8	2.67	2	0	1	0	4396	0.4	0.64	4.15	5 MV, 2 AN, 1 SP	2 RE, 1 RA, 1 LTA, 3 OTH, 1 UNK	5 D, 2 W, 1 S/I	7 CVP, 1 OTH	5:10AM, 8AM, 8:48AM, 3:07PM, 4:28PM, 5:35PM, 6:30PM, 9:57PM	1 Speed, 2 Alcohol, 1 Foll-too-CI, 1 FtoYROW, 2 Animal, 1 Other
NY 406 to Guilderland Townline	8	2.67	1	0	4	0	4540	0.5	0.83	3.22	5 MV, 1 AN, 1 GR, 1 ERD	3 RE, 1 RA, 3 OTH, 1 UNK	7 D, 1 S/I	6 CVP, 1 T, 1 MTR	12:15PM, 12:57PM, 1:30PM, 3PM, 5:05PM, 8PM, 11:30PM	1 Speed, 1 Foll-too-Clo,1 UnsafeLnCh, 1 Inatt, 2 Animal, 2 Unknown
Guilderland Townline to NY 397	9	3.00	3	0	2	0	4540	1.5	2.49	1.21	4MV, 3AN, 2ERD	1RE, 1OVT, 1RA, 1RTA, 5OTH	8D, 1S/I	7CVP, 2OTH	3:48AM, 8:30AM, 9:15AM, 11:50AM, 12:31PM, 4:02PM, 7:12PM, 7:31PM, 10:21PM	1 Inatt, 1 UnsafeLnCh, 1 FtoYROW, 2 Alcohol, 1 Glare, 3 Animal
NY 397 to NY 158	9	3.00	4	0	4	0	5673	1.5	3.11	0.97	3MV, 4AN, 1LSUP, 1OTHNC	2RE, 6OTH, 1 UNK	7D, 2W	9CVP	12:17AM, 2:38AM, 1PM, 1:45PM, 2:03PM, 3:07PM, 3:29PM, 4:56PM, 7:21PM	1 Foll-too-Clo, 1 Alcoh, 1 FtoYROW, 4 Animal, 1 Glare, 1 Unknown
Total	34	11.33	10	0	11	0	4787	3.9	6.81	1.66	17 MV, 10 AN, 3 ERD, 1 GR, 1 LSUP, 1 SP, 1 OTHNC	8 RE, 3 RA, 1 OVT, 1 LTA, 1 RTA, 17 OTH, 3 UNK	27 D, 4 W, 3 S/I	29 CVP, 1 MTR, 1 T, 3 OTH	2 Morning, 13 Day-off peak, 6 Evening, 13 Night	2 Speed, 5 Alcohol, 3 Foll-too-Clo, 3 FtoYROW, 2 Inattention, 2 UnsafeLnCh, 11 Animal, 2 Glare, 1 Other, 3 Unknown

Intersection Crashes	Total Crashes	Avg Annual Crashes	Injuries	Fatalities	Property Damage Only	Bike/Pede strian Involved	AADT entering	Million Entering Vehicles Per Year	Acc/ MEV	Crash Type	Collision Type	Roadway Surface	Vehicle Type	Crash Time	Cause
US 20 & NY 406	1	0.33	0	0	1	0	5000	1.83	0.18	1 F/E	1OTH	1D	1CVP	3:30PM	1 Oth
US 20 & NY 397	8	2.67	6	0	2	0	7000	2.56	1.04	6MV, 1 SP, 1 AN	5RA, 2OTH, 1UNK	5D, 2 W, 1 UNK	7CVP, 1 CVP/T	5:51AM, 6:42AM, 8:43AM, 9:40AM, 11:10AM, 2:14PM, 3:35PM, 6:08PM	5 FtoYROW, 1 Inatt, 1 An, 1 Unk
US 20 & NY 158	9	3.00	7	0	2	0	10000	3.65	0.82	7MV, 1LSUP, 1SP	1RE, 2RA, 2LTA, 3OTH, 1UNK	8D, 1W	6CVP, 3CVP/T	3AM, 5:09AM, 8:30AM, 9:25AM, 1:27PM, 3:28PM, 8:10PM, 10:45PM	1 Speed, 2 FtoYROW, 1 Alcohol, 1 Oth, 4 Unk
Total	18	6.00	13	0	5	0				13 MV, 1 AN, 1 LSUP, 2 SP, 1 F/E	1 RE, 7 RA, 2 LTA, 6 OTH, 2 UNK	14 D, 3 W, 1 UNK	14 CVP, 4 CVP/T	3 Morning, 8 Day-off peak, 1 Evening, 6 Night	1 Speed, 1 Alcohol, 7 FtoYROW, 1 Inatt, 1 Animal, 2 Oth, 5 Unk

Route 20 Land Use and Transportation Study

Appendix D

Driveway Level of Compatibility (LOC) for RT 20 Corridor

Road Segment	Length (Miles)	AADT	Residential Driveways per mile	Commercial Driveways per mile	Residential Driveways Average Spacing (Feet)	Commercial Driveways Average Spacing (Feet)	Residential Conflict Index (AADT/Avg Spacing)	Commercial Conflict Index (AADT/Avg Spacing)	Residential Level of Compatibility (LOC)	Commercial Level of Compatibility (LOC)
Town boundary - RT 406	0.5	4310	6	10	880	528	5	8	B	A
RT 406 - RT 397	2	4429	13	16	406	330	11	13	C	B
RT 397 - RT 158	1.5	5562	26	9	203	587	27	9	D	A
RT 158 - Reservoir	0.25	6658	8	0	660	0	10	0	C	A
Total	4.25	5240	16	12	330	440	16	12	C	B

Residential LOC

- A: No conflict - no residential use or no traffic
- B: Little conflict - little residential use or modest traffic
- C: Concern - both traffic and residential use noticeable
- D: Significant - conflict between traffic and residential use
- E: Continued residential use may be unsatisfactory
- F: Continued residential use may not be possible

E: Continued residential use may be unsatisfactory

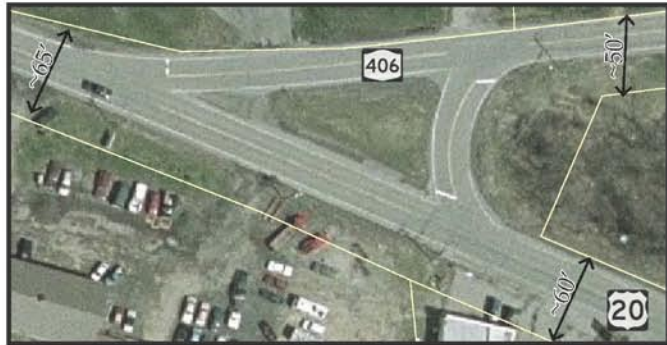
F: Continued residential use may not be possible

Commercial LOC

- A: No conflict - no residential use or no traffic
- B: Little conflict - little residential use or modest traffic
- C: Concern - both traffic and residential use noticeable
- D: Significant - conflict between traffic and residential use

Appendix E: Illustrated Summary of Existing Conditions and Recommendations for RT 20 Intersections

Towns of Guilderland & Princetown
Route 20 Corridor Study
Gifford Intersection (20 & 406)



Existing Conditions:

- Non-signalized Intersection
- Approximately 58' average right-of-way at intersection
- Two ~12' travel lanes
- 2-5' shoulders
- No sidewalks
- No crosswalks

Intersection Capacity:

AM Peak: LOS A
PM Peak: LOS A

LOS=Level of service
A: < 10 sec delay/vehicle

Short-term Alternatives:

- Improve signage throughout intersection
- Reduce lane width from 12' to 11' with re-striping
- Enhanced planning to identify shared driveway and parking opportunities and narrow wide driveway openings

Long-term Alternatives:

- Realign intersection of 406 & 20 with new Settles Hill Road
- Regrade to remove "humps" in road to improve visibility both to east and west of new intersection
- Installation of crosswalks and sidewalks throughout commercial corridor



View from west to east

Land use/Aesthetic Alternatives:

- Gateway feature for Gifford Commercial District
- Commercial design guidelines
- Landscape screening along areas in need of aesthetic improvements

Problems:

- Many access points at intersection create conflicts and confusion
- Topography creates visibility and speed issues
- Aesthetics detract from character of area
- No transition between commercial and residential/rural uses



Primarily commercial surrounding intersection

For conceptual planning purposes only



View to southeast from Route 406, across Route 20



View from east to west



Existing Conditions:

- Signalized Intersection (flashing yellow)
- Approximately 60' average right-of-way leading to intersection
- Two ~12' travel lanes
- 2-5' shoulders
- No sidewalks
- No crosswalks

Short-term Alternatives:

- Change from flashing to full-signalized intersection
- Improve visibility at northeast corner of intersection
- Reduce lane width from 12' to 11' with re-striping
- Add appropriate signage to alert motorist of arrival in hamlet

Long-term Alternatives:

Alternative 1

- Reconfigure roadway to include center medians through the Dunnsville Hamlet
- Reconfigure roadway with:
 - 11' travel lane
 - 4' separated shoulder
 - 6' sidewalk
- Add crosswalks
- Add appropriate signage to alert motorist of arrival in Dunnsville Hamlet

Alternative 2

- Reconfigure intersection with roundabout
- Reconfigure roadway to include center medians through the Dunnsville Hamlet
- Reconfigure roadway with:
 - 11' travel lane
 - 4' separated shoulder
 - 6' sidewalk



For conceptual planning purposes only

**Towns of Guilderland & Princetown
Route 20 Corridor Study
Dunnsville Road Intersection (20 & 397)**



View across intersection from southwest to northeast

Problems:

- Accident rate of 1.04* is higher than state average of 0.59
- High number of driveways
- Poor visibility turning east from 397 North

*accidents/million vehicle miles

Intersection Capacity:

AM Peak: LOS A
PM Peak: LOS B

LOS=Level of service
A: < 10 sec delay/vehicle
B: 10-20 sec delay/vehicle



View from east to west



Existing Conditions:

- Signalized Intersection
- Right Turn Lane on Route 20 Westbound
- Approximately 90' average right-of-way at intersection
- Two ~12' travel lanes
- 2-5' shoulders
- No sidewalks
- No crosswalks

Intersection Capacity:

AM Peak: LOS A
PM Peak: LOS B

LOS=Level of service
A: < 10 sec delay/vehicle
B: 10-20 sec delay/vehicle

Problems:

- Accident rate of 0.82* is higher than state average of 0.59
- Primary accident is right angle type; caused by failure to yield
- High number of driveways west of the intersection

*accidents/million vehicle miles

Short-term Alternatives:

- Add signage to alert motorists that they are approaching the intersection
- Reduce lane width from 12' to 11' with re-striping
- Add crosswalks

Long-term Alternatives:

- Reconfigure intersection with roundabout
- Reconfigure roadway with:
 - 11' travel lane
 - 4' separated shoulder
 - 6' sidewalk

**Towns of Guilderland & Princetown
Route 20 Corridor Study
Watervliet Reservoir Intersection (20 & 158)**



View across intersection from southeast to northwest

Land use/Aesthetic Alternatives:

- Interpretive features at southeast corner of intersection - connections to reservoir
- Potential commercial use of southwest corner - such as farm stand
- Connections to Guilderland Town Hall - possible sidewalk connection



View from west to east



Mix of commercial and residential properties surrounding intersection

Land Surrounding Watervliet Reservoir

For conceptual planning purposes only



View from east to west

Appendix F: Access Management Guidelines and Recommendations

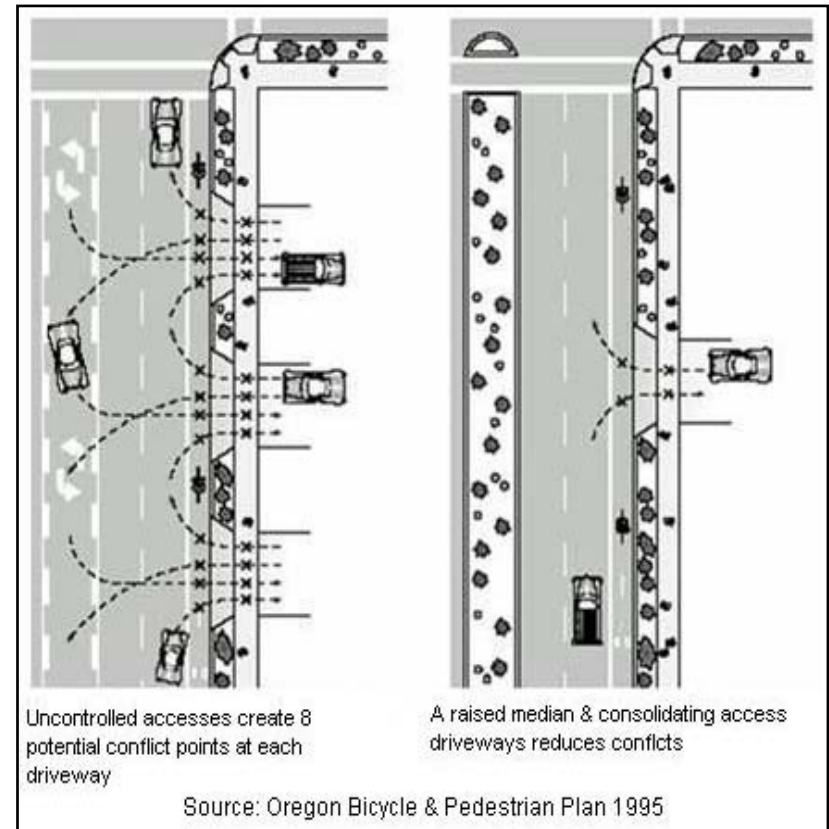
Access management is defined by the federal highway administration (FHWA) as *“the process that provides access to land development while simultaneously preserving the flow of traffic on the surrounding road system in terms of safety, capacity, and speed.”* It is important to consider transportation and land use decisions holistically. With each project, a broader understanding of the potential impacts to the RT 20 corridor should be considered.

In Guilderland, access management principles could be adopted as a supplement to §280-29, Special Access and Setback Requirements, applicable to all development along RT 20.

In Princetown, these access management principles could be adopted as additional guidance for the C-1 district. The planning board would use these guidelines when working with applicants to develop site plans. Ideally, the guidelines would be discussed with applicants before a concept or site plan is submitted.

The access management guidelines include:

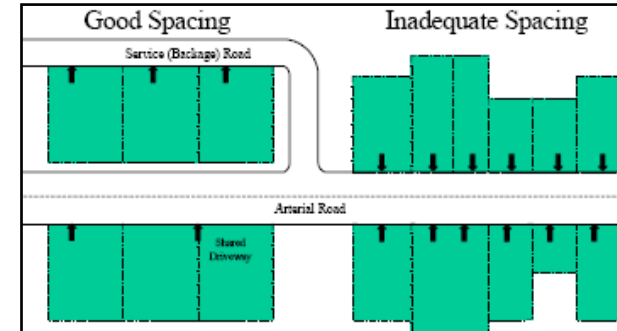
1. Limit the number of conflict points. (minimize curb-cuts).
2. Limit access to RT 20 and provide access away from intersections if necessary.
3. Use landscaped raised medians.



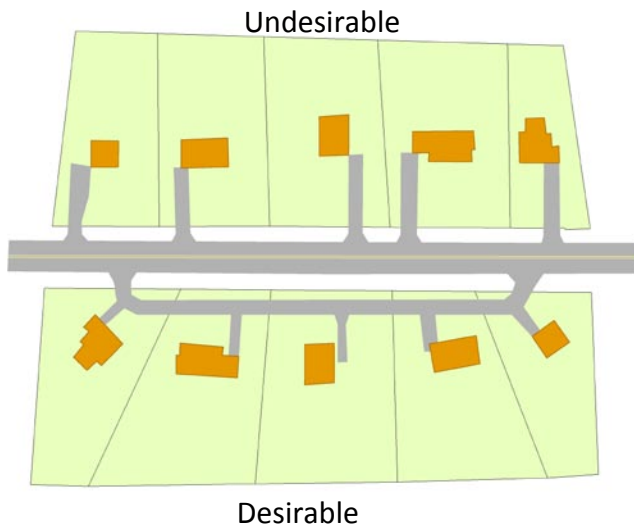
The image above shows how guidelines 1-3 can be applied by consolidating access and adding a landscaped median.
Source: Oregon Bicycle and Pedestrian Plan 1995.

Route 20 Land Use and Transportation Study

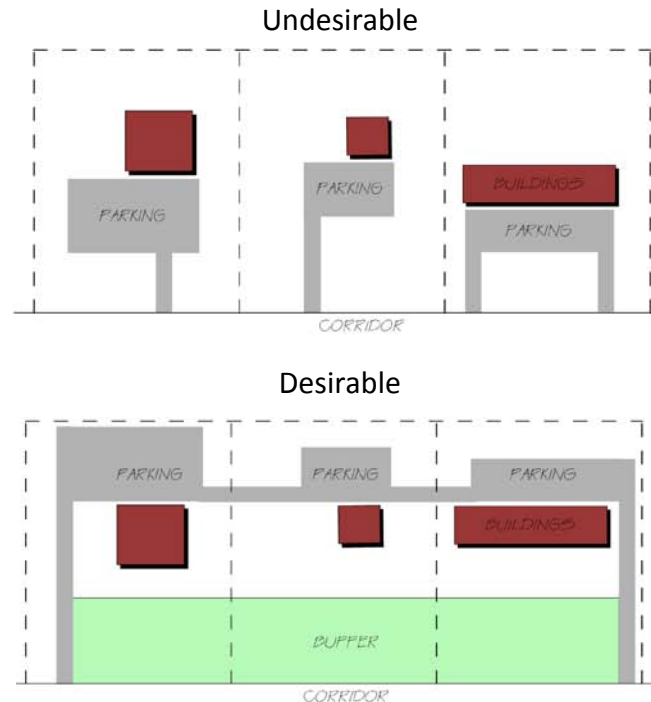
4. Widen the distance between conflict points.
5. Use shared driveways and linked parking.
6. Use interconnected street networks, frontage, or backage roads to reduce the amount of traffic on the main highway and facilitate local interconnectivity.
7. Ensure that sidewalks are continuous and clearly demarcated across driveways.



The image above shows how providing good spacing can be accomplished by widening the distance between conflict points (principle #4).
Source:



The images above illustrates how guideline # 6 can be implemented in a residential setting. On the top, a typical strip development scenario where each house creates its own driveway access to the main road. On the bottom, a frontage road is created to provide access and short driveways are provided.



The image above shows how guideline # 5 can be implemented in a commercial setting. Instead of a typical arrangement where each commercial building creates its own driveway and parking lot (top), a shared driveway and parking area helps to reduce conflict points and improves circulation through the area.

Route 20 Land Use and Transportation Study

These access management strategies will not only ensure a better access to the local developments, but also enable better traffic on RT 20, safer environment for both vehicles and pedestrian, and increase the quality of life of the area. These strategies should be applied to any future development (particularly, commercial) when development occurs. Towns should also work with existing property owners to improve the access to their properties following these principles. Cooperation among landowners will be necessary to implement many of these strategies.

Some of the critical access management provisions that should be pursued by both towns as part of future development projects as well as retrofit improvements to existing projects include:

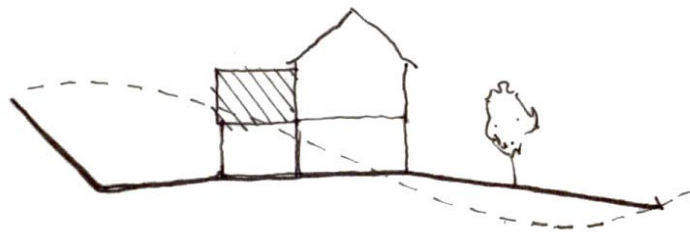
- Pursue right-in, right-out access to from existing and potential commercial developments
- Pursue with the existing commercial developments to redesign the driveways so as to keep them away from intersections
- Pursue with existing and future commercial developments to provide shared access and linked parking to minimize curb cuts and conflict points
- Provide pedestrian connections between commercial developments through sidewalks, crosswalks, etc.
- Provide parking behind the structures
- In the short term, pursue raised/landscaped medians at the three intersections
- In the long term, pursue raised/landscaped medians at the new intersection created by the service road from proposed hamlet near RT 397 intersection
- While realigning the Giffords Church road, pursue shared driveways, shared parking, etc., with the nearby property owners and provide sidewalks and crosswalks
- Limit the number of driveways from residential properties to one and ensure that the driveways are not too wide
- Ensure that the sidewalk along RT 20 is continuous and clearly demarcated across the driveways

Appendix G: Commercial Design Guidelines for Princetown's C-2 District

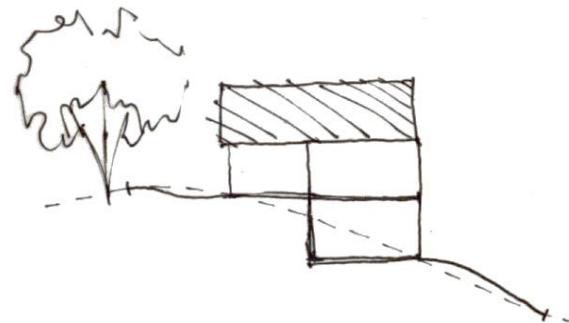
These guidelines should be adopted by the Town of Princetown for the C-2 Zoning district. These design guidelines are an adaptation of the Town of Guilderland's design guidelines for the *Guilderland Hamlet Neighborhood Plan*, which are recommended to be extended to the RT 20 Corridor in Guilderland. If both towns can adopt a similar version of these design guidelines, it will help to shape a uniform approach for design along the RT 20 corridor. The access management guidelines (Appendix F) and commercial design guidelines can be combined for ease of use.

1. NATURAL SITE DESIGN

Site design should recognize and respect the site's natural features, creating a balance between the program of the new development and the environmental impact. By recognizing and building with the existing topography, it becomes possible to integrate storm water management into the design, lessen the amount of grading and erosion, and thereby lessen the environmental impact to surrounding areas. In addition, by incorporating the site's natural features into the site design, it becomes possible to create a more aesthetically relevant place which fits into its context.



Undesirable: Site denuded and regraded to accommodate structure, mature tree must be removed and replaced by young tree.



Desirable: Existing topography is respected and the change to it limited. The structure blends into its site, mature tree can remain.

- ❑ Recognize each site's natural features (wetlands, views, existing trees, topography, etc.), and incorporate them into the planning and design of the site.
- ❑ Integrate storm water management into site design through low impact development strategies.

2. ARCHITECTURAL DESIGN

Building design should creatively reflect traditional elements of the surrounding area. Diversity that is in tune with the massing, proportion, decorative design elements, and nearby buildings, should be encouraged. Clusters of buildings with internal open spaces are desired, rather than single buildings separated by vast expanses of parking lots. Old and new structures should appear as a comprehensive sequence in size and shape. Architectural detailing can be used to create variety and interest on new buildings.



Example of undesirable architecture.



Example of desirable architecture.



Example of undesirable architecture.



Example of desirable architecture.

3. PARKING

Parking should be located behind, or occasionally along the side of commercial structures, and visually screened from the road to create a more interesting roadway. Generally, smaller, well-connected parking areas are preferred. Creating additional (side/back) entrances to buildings will render side and back parking lots more attractive to customers. ‘Backyard’ development such as utilities, dumpsters, service areas and parking should respect adjacent residential uses. Shared and long term parking should be encouraged between adjacent and nearby users.

- ☐ **Provide parking behind structures – minimize or eliminate parking between the roadside and structures.**
- ☐ **Allow for and encourage shared parking – allow for reduced parking areas where uses are appropriate.**
- ☐ **Provide trees to shade parking areas and walkways.**
- ☐ **Provide landscaped medians and islands to visually break up and define parking areas.**

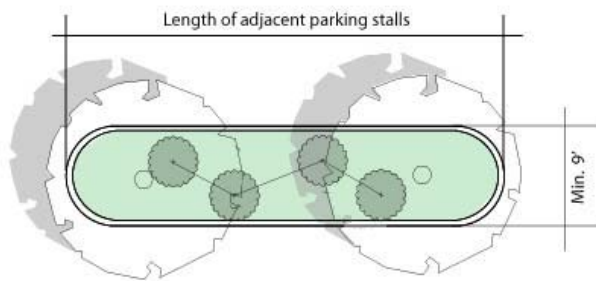
Route 20 Land Use and Transportation Study



Desirable: Trees and vegetation break up the parking areas into smaller spaces.



Undesirable: a large expanse of parking.



Parking lot island, recommended dimensions and plantings.



Desirable: Parking located behind building with landscape planting.

4. SIGNS

Visual communications or signs as design elements are important for maintaining a desirable community character. Signs should be at a scale appropriate to the use and volume of the facility. Retail commercial uses require a greater signage level than office or other limited use commercial facilities. Signs can help unify a commercial district or corridor, and create a positive image regarding the goods and services available there. Signage must be managed to avoid visual blight and to provide a fair and competitive economic environment. Commercial buildings can be designed with dignity to grace the public realm. Buildings or their architectural treatments should not, however, be so garish in line, color, or effect, so as to constitute a sign in themselves. Tasteful building design and appropriate signage can provide an important role in identifying a business, while contributing positively to community character.

- ☐ Discourage using buildings as signs.
- ☐ Discourage internally lit signs.
- ☐ Encourage cohesive sign treatment within strip malls and shared commercial space.



Desirable: A simple yet well designed sign that complements its rural surroundings.



Desirable: A gas station sign with unique design and integrated plantings.

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Desirable: This strip mall has a cohesive signage plan.



Undesirable: The signage in this strip mall is not harmonious.

5. LANDSCAPING

Landscaping should be designed to break up paved areas and to improve the aesthetics of the RT 20 corridor. The rural character of the corridor calls for a green buffer along the roadside, which may be wider in more rural open areas, and narrow in hamlet areas. In existing commercial strips, thoughtful expansion of green space and planting areas can improve the aesthetic of the site. In new projects, open space should be an integral component of the design scheme, rather than a remnant of the development process. The planting of trees should be encouraged to shade and enclose the street and to define the edge of the public realm and private space. Existing specimen trees should be used to the extent feasible. Landscaping of parking areas provides visual relief, shade and buffers to adjoining uses. Trees, shrubs, flowers, and ground cover should each be used as appropriate. Large areas of asphalt should be divided into smaller units through the use of landscaped medians and islands.

□ **Provide landscaping that complements the character of the surrounding area.**

□ **Provide landscaped buffers to visually screen parking lots.**

□ **Minimize the use of invasive species of trees, shrubs, and flowers for landscaping and renovation. Instead utilize plant species native to the area to the greatest extent practicable.**



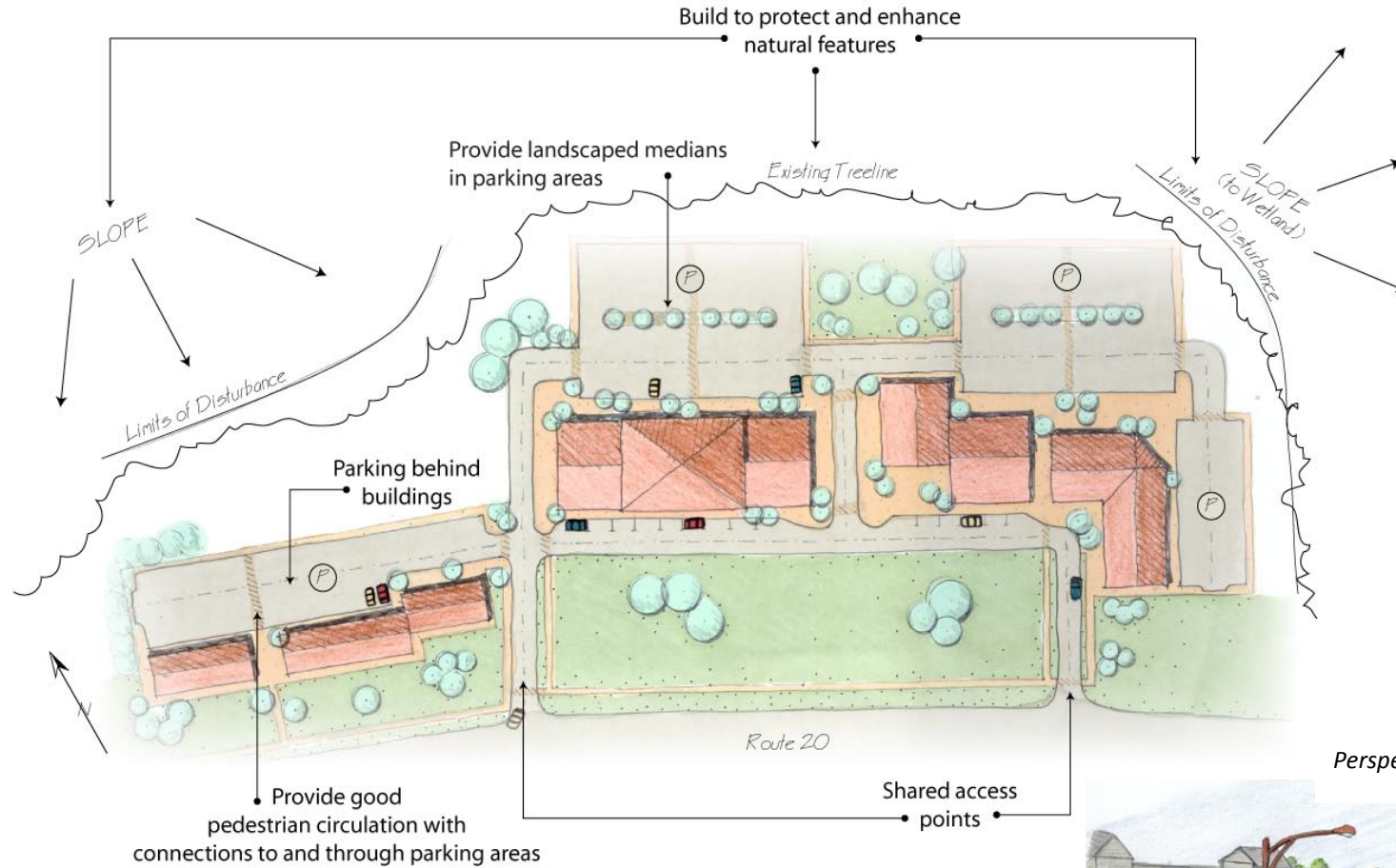
Desirable: a narrow landscape buffer, combined with a colorful planting areas and an attractive sign.



Desirable: a larger landscape buffer helps to screen the road from the intensive use of this site.

Application of Commercial Design Guidelines

The graphic below helps to illustrate how the many considerations of design guidelines can come together in a commercial development area along RT 20.



Perspective drawing of the above plan.

