Seneca County
Routes 5&20 / 414
Corridors Management Plan

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DESIGN PROFESSIONALS

GTS Consulting

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Introduction

Community Setting

Located in the heart of the Finger Lakes Region, Seneca County boasts wonderful natural, historic, cultural resources such as the Montezuma National Park, the Erie Canal, and its history as the birthplace of the women's rights movement. Seneca and Cayuga Lakes, Waterloo Premium Outlets and nearby wineries are major destinations that attract a wide range of travelers from the region, the state and beyond. Most of the county's civic functions are coordinated from the County Office Complex, located on DiPonzio Drive in Waterloo. And the area is home to Seneca Meadows, a 179-acre landfill located on Route 414 which is proposing a 200-acre expansion.

Routes 5&20 and 414 are primary access routes for area residents and visitors who access the area's many resources. Consequently, they are a natural location for development, whether in the form of big-box commercial enterprises or heritage tourism. These corridors, including prime intersections, are already experiencing development pressure. The villages are working to address increased Main Street vacancies and the need for unique market niches to sustain vital village centers. There are growing concerns about traffic congestion, now and in the future, including increasing truck traffic.

Project Background

Ongoing large-scale retail development (Lowe's and Wal-Mart Super Center), undeveloped parcels of land, a regionally marketed tourism corridor, increasing number of empty village storefronts, expansion at Seneca Meadows and increasing traffic along Routes 5&20 and 414 are just some of the issues facing this part of Seneca County. Smaller-scaled commercial development within the study area is in the planning stages. Plans for a Rite Aid on the northwest corner of Routes 5&20/414 and a Walgreens proposed for the southwest corner next to Pizza Hut will present access management challenges.

Seneca County, in cooperation with the Town and Village of Seneca Falls, the Town of Tyre and the Town and Village of Waterloo, responded proactively to these issues by engaging key stakeholders and the community at large in a Corridors Management Study to examine current and future conditions on Routes 5&20/414, identify the community's vision for future development, and recommend future land use and transportation improvements. This project was initiated to understand existing and planned conditions and provide the involved communities with tools they can use to manage development now and in the future.

The Value of Corridor Planning

Corridor planning has evolved over the last couple of decades to encompass a comprehensive approach to managing roadways and transportation systems. While traffic data (volumes and accidents) remain important factors in the transportation decisions that are made today, they are not the only consideration. Corridor planning is a "big picture" approach that incorporates access, safety, historic preservation, context-sensitive design, land use and good decision making practices into one process.

The process typically includes ample community input throughout the planning effort, either in the form of a diverse advisory committee, public meetings and workshops, or a combination of these. To that end, the pool of experts who assist in the process of corridor planning has expanded to reflect the diverse perspectives that must be addressed. Transportation engineers have been joined by community planners, landscape architects and a variety of municipal representatives to ensure that the end result supports the "big picture." Successful corridor planning requires a variety of strategies to be utilized at the same time. Chief among them is access management.

Access Management Basics

Access management is a comprehensive approach to improving corridor safety and access. Transportation systems are designed to complement existing and future land uses along the targeted roadways. As a result, improved access and movement are achieved in a manner that respects the surrounding community and its plans for future development.

Access management does more than reserve the safety and efficiency of travel. Well-designed access systems can help preserve community character, advance economic development goals, and protect the substantial public investment in roads and highways.

Recommendations for access management usually include the location of private and public access drives as well as the development and site design of nearby lands. Access management plans also include recommendations for coordinated land development and subdivision regulations, as well as transportation and land use strategies that work together to address the issues identified by the community or communities involved.

Introduction

An access management plan will identify reasonable, efficient ways to achieve the goals and objectives developed through the planning process. They typically consider the following roadway information: umber and widths of lanes; presence and/or need for medians; pedestrian access and linkages; number and location of curb cuts; intersection locations and performance; and new streets or extensions of existing streets.

In addition, access management plans consider the following community-related information:

- Current land use and zoning;
- Future land use and zoning changes;
- Anticipated development projects;
- Land uses and regulations;
- Subdivision regulations (if applicable to the study
- area);
- Other municipal policies and regulations that could
- impact the study area.

Key Planning Process Objectives and Community Involvement

The planning process was predicated on three key objectives: understand current conditions; identify future opportunities and constraints; and develop customized strategies that would meet both regional and local needs.

To effectively meet these objectives, the process was guided by a steering committee that represented all five communities and included individuals with diverse experiences and perspectives. The committee was actively engaged throughout the process and provided input and feedback in every decision made. Additionally, public meetings were held to encourage interested community members to contribute during the information gathering and recommendation development stages.

Initial Input

In the early stages of the planning, steering committee members and attendees at the public informational meeting were asked to identify the strengths, weaknesses, opportunities and strengths of the study area corridors. This brainstorming exercise was used to help identify critical issues facing the study area.

STRENGTHS

Route 5&20
- High travel corridor
- Tourism – between two lakes/history tie-ins (marketing angle)
- Prime access for residents to larger cities on either side
- In villages – good pedestrian environment
- Seneca Falls – sidewalks extended to 414; portions have water and sewer
- Bike traffic – Waterloo village heading east

Route 414
- Direct route 5&20/Thruway
- Nothing impedes that direct access
- Land for future development (industrial) across from landfill
- Has water access/sewer
- State police patrol (check trucks and fines are income
- Limit speeding

WEAKNESSES

Route 5&20
- School bus traffic – frequency of stops
- Lower speed limit
- Village traffic
- Unsightly existing roadside development
- Not attractive
- A mix of commercial/residential
- Sprawl/disorderly access points
- Historical limitations
- No marked bike lane
- Limited places to start a business between villages – Seneca Falls/Waterloo

Route 414
- High volume truck traffic
  - Landfill is majority
  - Other trucks mostly local destination
- "Sweet" smell
- Litter on roadside
- Potential for development
- Mix of residential, commercial and industrial
- High speed (especially trucks)
- High presence of state police

Introduction

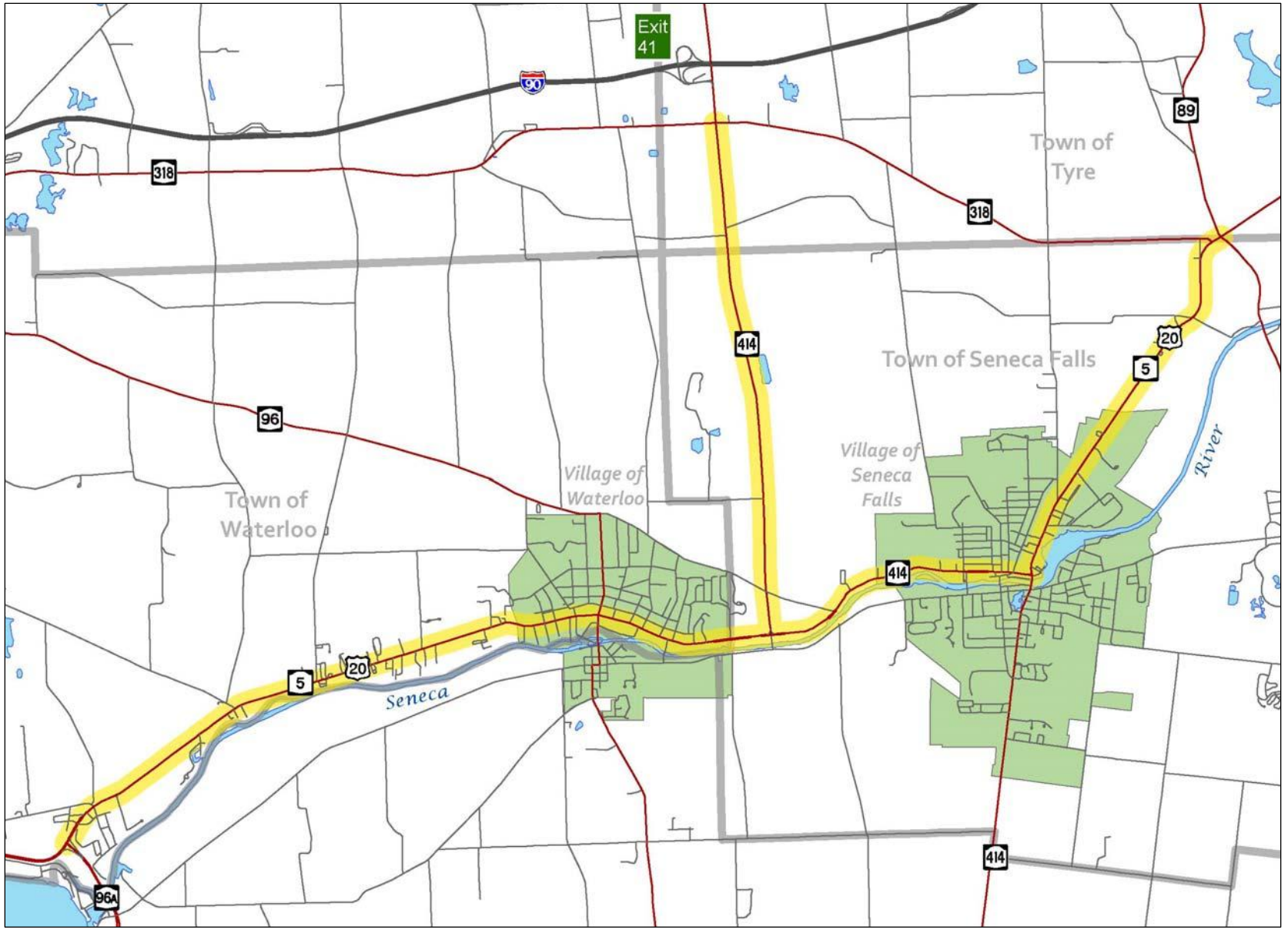
OPPORTUNITIES

- Balsey Road (5&20 extension) development
- Village parking and access from rear
- Work with property owners for better access management techniques
- Closeness to canal - maximize the connection
- Improvements to intersections
  - 414 (town and village)
  - 318/89/5&20
- Roundabout opportunity?
- Gateway enhancements

When the existing Wal-Mart closes, the vacant structure will present opportunities for redevelopment or become a threat if left vacant for too long.

THREATS

- Empty big box and other commercial establishments
- Haphazard development
- Mixed occupancy
- Inappropriate/lack of transitions between development types
- Excessive variances
- Signage height restrictions/variances
- Mobility breakdown between villages
- Big box development eating village business
- Parking in villages not visible
- Landfill expansion
- Small shops in villages have closed
- Increased truck traffic
- 318/414 traffic light and high speed limit (55 mph)
- 414 farmland put up for sale for commercial development
- Uncontrolled or poorly designed commercial development


Exit 41
90
318
89
Town of Tyre
318
414
Town of Seneca Falls
20
5
96
Village of Waterloo
Village of Seneca Falls
River
Town of Waterloo
414
5
20
Seneca
414
96A

Natural and Physical Features

Understanding an area's natural and physical features is integral to developing long range community goals and plans. The location and extent of sensitive environmental features, such as old growth forests, streams or steep slopes, wetlands or floodplains, or locally-known features, such as prominent hills, bluffs or other natural features, can impact how and where development and preservation are best suited. In addition to features that are visibly seen, natural features may also include subsurface elements that can impact development and design, such as prime agricultural soils, underground aquifers, bedrock depth and other soil features. Physical features such as roadways, sewers, waterlines, bridges and canals impact future development by limiting the extent of new construction and its density.

The maps, contained in Appendix A, depict the critical natural and physical features located within and adjacent to the study area. This information will help more accurately determine where new development should be encouraged, where it should be avoided and what areas should be preserved for the good of the environment and community's quality of life.

Map 1 – Transportation Network

Within the greater study region there are four primary east-west arterials and three primary north-south arterials. The east-west arterials consist of the NYS Thruway (I-90); State Route 318, the northern terminus of the study area; State Route 96, which intersects with Route 414; and State Routes 5 & 20, one of the two primary study area corridors. State Route 89, the eastern terminus of the study area; State Route 414, the second half of the study area corridor; and State Route 96A, the western terminus of the study area, make up the primary north-south arterials.

State Route 5 & 20 serves as a primary east-west route for both everyday drivers as well as some commercial truck traffic through the northern portion of Seneca County. With the construction of the New York State Thruway in 1950's, just north of the study area, most of the truck traffic and long distance travel has shifted away from Routes 5 & 20. However, the route still remains well traveled and serves as an important regional roadway as it traverses through many Villages, Towns and Cities throughout the State.

In the study area, this route serves as the Main Street for the Villages of Waterloo and Seneca Falls. Route 414 serves as a major north-south route for motorists and truck traffic from the Southern Tier to Wayne County and includes direct access to the NYS

Thruway via exit 41. For a short stretch, Route 414 overlaps Routes 5 & 20 through the Village of Seneca Falls before diverging south at the center of the Village. The Villages serve as major destinations along the corridor as well as major traffic generators as they have higher concentrations of housing and commercial uses. Outside of the Villages, rural roads traverse mainly north to south, generally following the topography of the land, and are further apart.

Seneca Transit Service (STS), a subsidiary of Rochester-Genesee Regional Transportation Authority (RGRTA), operates five bus routes through Seneca County. These routes are located in and around the study area, as shown in Map 1. Beyond the study area, there is limited service, with the exception of STS Route 5 which runs south on Route 414 as well as Route 96.

Finger Lakes Railway owns and maintains a section of railline between Victor and Syracuse and operates as a short-line/Class III service. This type of rail service provides limited passenger and short freight service along the line. Within Seneca County, the Finger Lakes railline generally runs parallel to Routes 5 & 20. The line has grade crossing at Route 414, just north of Balsley Road and another crossing on Routes 5 & 20 in Seneca Falls near Van Cleef Lake.

Several trails were identified in the study area, also shown in Map 1. These trails exist within the Village of Seneca Falls (Frank Ludovico Sculpture Trail) and Waterloo (Vern's Way). According to the Genesee Transportation Council (GTC), which provides planning and construction funding for multi-modal transportation, the Cayuga-Seneca Canal Trail is currently under development. This trail utilizes the old railbed that runs south of the Seneca River/Canal that has long been abandoned. The trail will connect Seneca Lake State Park to the Village of Waterloo when completed in its current phase.

Subsequent phases intend to connect to the Village of Seneca Falls and further east to the Montezuma National Wildlife Refuge. The Arthur A. Baker Bike Trail is another proposed trail that will connect the Canal Trail in Seneca Falls to Cayuga Lake State Park to the east.

Map 2 – Waterbodies & Hydrology

The predominant water feature in the study area is the Seneca River, which connects Seneca Lake to the Oswego River and eventually Lake Ontario. The River is also referred to as the Cayuga-Seneca Canal and is a part of the NYS Barge Canal System. The canal was created in 1818 to transport raw and manufactured goods in Waterloo and Seneca Falls to the Erie Canal to the

north. Originally, there were eight stone locks that were constructed to allow safe passage of boats through various rapids that were naturally found along the canal. Eventually, the stone locks were replaced with more modern structures; two are located in Seneca Falls and one is in Waterloo.

Although the canal is no longer used for the transportation of goods, various recreational pursuits have become the primary use. Due to this, tourism and water-related businesses have developed adjacent to its banks, especially in Waterloo and Seneca Falls. As shown in Map 2, several feeder creeks and brooks are also found in the area, including Black Brook to the north and Kendig, Silver, Sucker and Sampson Creeks to the south.

With the exception of a section of the Seneca River from Seneca Lake to the western edge of the Village of Waterloo, all of the creeks and streams within the study area are classified as Class C waters. The section of Seneca River between the Lake and Waterloo is classified as Class A water. According to Environmental Conservation Law (NYCRR ECL §701), the highest and best use for Class C waters is for fishing, while Class A waters are suitable for potable water, recreation and fishing. Class C waters can also be used for recreational pursuits as well.

Along with the rivers and creeks, several large expanses of wetlands are located in the study region. Wetlands are classified into two jurisdictional categories. Any wetland larger than 12.4 acres falls under the jurisdiction of the State Department of Environmental Conservation (NYS DEC). Smaller wetlands are considered waters of the United States and therefore fall under the protection of the Army Corps of Engineers (USACE). In both cases, development that will disturb a wetland directly or within 100 feet of the area will require permitting and mitigation measures. In some instances, these wetlands are the source for smaller creeks and brooks. Black Brook is fed by large Federal and State wetlands north of Packwood Drive. In addition to these wetlands, the bulk of which are located outside of the study area, State and Federal wetlands are predominantly located along the south bank of the River as well as along the central portion of Route 414.

Wetlands play a vital role in the ecosystem from filtering groundwater and runoff, to absorbing flood waters to providing a valuable habitat for unique forms of wildlife. Development near wetlands should be carefully controlled to minimize any environmental impacts and to preserve these valuable resources.

Although digital mapping is not available for the area, the Federal Emergency Management Agency (FEMA) maintains floodplain mapping that delineates areas that are prone to flooding. According to paper maps, these floodplains exist primarily within the River, but also extend along Black Brook from the River to Reed Road (west of Waterloo), Silver Creek within the Waterloo village boundaries, Sucker Brook (west of Seneca Falls), and a small area just south of Hyatt and George Road on Routes 5 & 20. Outside of the River corridor, a large expanse of floodplains is found within the vicinity of the wetlands that are located alongside Route 414.

Map 3 – Topography

As seen in Map 3, the topography of the study area is generally flat, especially north of Route 5 & 20 and along Route 414. Slightly steeper slopes are predominantly found along the banks of the river just east of Van Cleef Lake, where the canal locks are located. At the east end of the study area, south of the intersection of Route 5 & 20 and 89, steeper slopes stretch from the intersection to Seneca River. Along its length in the study area, Route 5 & 20 range from an elevation of 416 feet to 483 feet and Route 414 is between 447 feet and 520 feet. Higher elevations for Route 414 are near the intersection with I-90.

Map 4 – Zoning

Zoning serves as the primary tool to regulate the development of land in an organized fashion. All of the communities within the corridor utilize zoning regulations in addition to subdivision and site plan review. In general, commercial districts are located adjacent to the major thoroughfares (i.e. Routes 5 & 20 and 414) and at large intersections. Residential zones are predominantly located within the villages and as frontage zones along roadways. The majority of land in the Towns is dedicated to agriculture or low-density, rural uses. A summary of each community's zoning regulations are included in later in this section.

Map 5A & B – Existing Land Use

All real property in New York State is classified according to its primary use and falls within one of nine specific categories. These categories are then broken down further to provide a more detailed description depending on how the property is used within the major category. This classification system is maintained by NYS Real Property Services (NYS ORPS) and is the standard used by all property assessors in the state. According to recent parcel data (confirm actual parcel data date), there are approximately 2,569 parcels that are located in the study area, defined as an area 1,000 feet adjacent to Routes 5 & 20 and Route 414. These parcels encompass over 7,600 acres of land with an assessed value of over $343 million dollars.

Although the largest number of parcels (1,689 or 65.7 percent) is classified as residential, agricultural lands make up the largest amount of land (1,983 acres). Residential land follows closely behind at 1,724 acres. Agricultural uses are located outside of the Villages, with the largest concentrations on the eastern and western edges of the study area along Routes 5 & 20. Several large parcels are also located on Route 414, predominantly closer to the intersection with Route 318 and south of the Seneca River. Outside of the study area, especially in the Towns of Tyre and Fayette, agricultural lands are much more predominant.

The large amount of residential land is mostly due to the fact that the study area includes the Villages of Waterloo and Seneca Falls, where density is higher and the majority of people reside. There is also a heavy concentration of residential properties along Routes 5 & 20 between the City of Geneva and Village of Waterloo, as well as some scattered larger parcels elsewhere in the study area.

Commercial land encompasses the second largest land values and these lands are found scattered between Geneva and Waterloo and within the Villages themselves. The largest concentration of commercial property, as shown in Map 5B is at the intersection of Routes 5 & 20 and 414. Larger parcels consisting of between two and 18 acres contain much larger chain and retail stores such as P&C Grocery store, Ace Hardware, Microtel, several drugstores, Wal Mart and Holiday Inn. Further north, light industrial, warehousing and other non-retail commercial establishments are found.

Vacant lands make up the third largest land acreage and number of parcels as shown in the table on page 15. Smaller vacant lands are found throughout the study area; however the largest parcels that hold the greatest potential for future development or conservation opportunities are found along Route 414.

Map 6 – Agricultural Districts & Parcels

A closer examination of the various farming parcels shows that the majority of the parcels are used for field crops such as corn, wheat, hay, alfalfa and oats. Although some of the lands appear vacant, in reality they are classified as productive lands that grow field crops and are part of a larger agricultural operation. These parcels typically do not have any structures and can be contiguous pieces of land.

County Agricultural District 6 and 8 cover the majority of the northern portion of Seneca County. Within the study area, District 6 contains almost all of the agricultural parcels, expect for one, mostly north of the Seneca River. District 8 covers south of the River;

only two parcels are not included in the District. Agricultural Districts encourage the continued use of land for agricultural pursuits and provide nuisance, tax and regulation relief for those included.

Map 7 – Prime Farm Soils

As shown in Map 7, prime farm soils are found throughout the County, with lesser concentrations between Route 96 and the Thruway. According to the U.S. Department of Agriculture (USDA), these soils are best suited for food, feed, forage, fiber (pasture) and oilseed crops. The soils also produce the highest yields with minimal inputs of energy, economic resources and environmental impact. Where higher concentrations of these soils exist, development should be minimized to protect these valuable soils.

Overview of Socio-Economic Conditions

Understanding this area's existing and future development opportunities and community development needs requires knowledge of socio-economic conditions in the surrounding area.

Population

Between 1980 and 2000, Seneca County's population has declined slightly, which is reflected in all of the study area communities. The Town and Village of Seneca Falls both mirrored the County's trend. Slight increases in population were documented in the Town of Tyre and the Town and Village of Waterloo. These changes reflect housing trends in the area and the newer residential development that occurred in these communities during that span of time.

The study area communities account for 90% of the County's entire population. Significant losses or gains in population will have significant impacts on how the corridors develop. Continued decreases in population may indicate that quality of life improvements are needed to attract and keep residents. Since 1980, the Town and Village of Seneca Falls has had the greatest

	Total Population		
	1980	1990	2000
Seneca Falls	9,886	9,384	9,347
Tyre	887	870	899
Waterloo	7,811	7,765	7,866
Village of Seneca Falls	7,466	7,370	6,861
Village of Waterloo	4,303	5,116	5,108

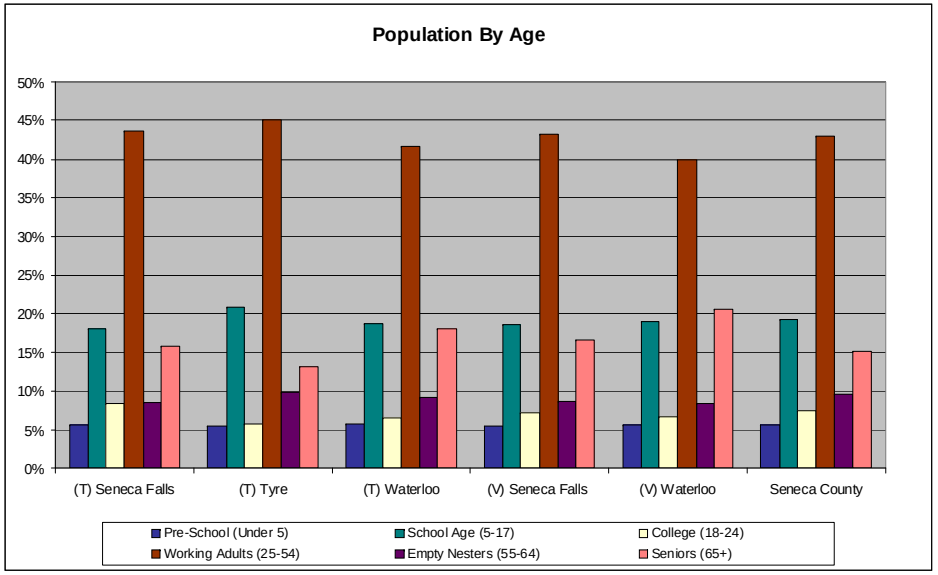
negative population change, while the other three municipalities have increased. The Village of Waterloo has had the greatest population increase, especially between 1980 and 1990.

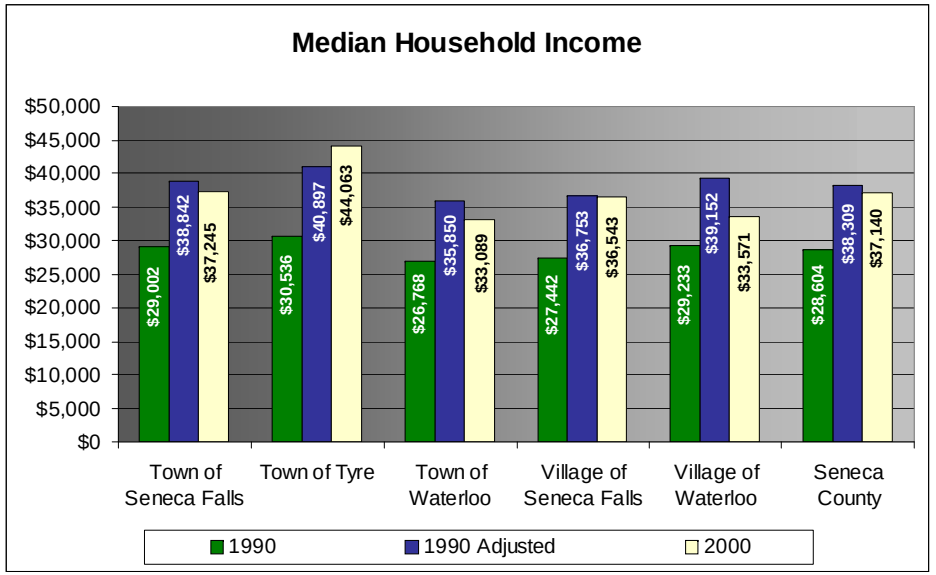
Age

The age distribution is relatively similar across all study area communities. In the context of a corridor study, we often focus on the transportation needs of youth and seniors. Alternative modes of transportation and walkability become critical in areas where there are higher concentrations of children and elderly. The highest concentration of seniors were found in the Town and Village of Waterloo. This may be a reflection of the housing options available and the services located in this portion of the county.

Household Income

Except for the Town of Tyre, median household income, when adjusted to constant dollars, decreased within the project area communities and in Seneca County as a whole. Although the decreases were relatively minor, they are important to note and may indicate residents' limited ability to financially support capital improvement projects that may be needed to meet the infrastructure needs along the two corridors.

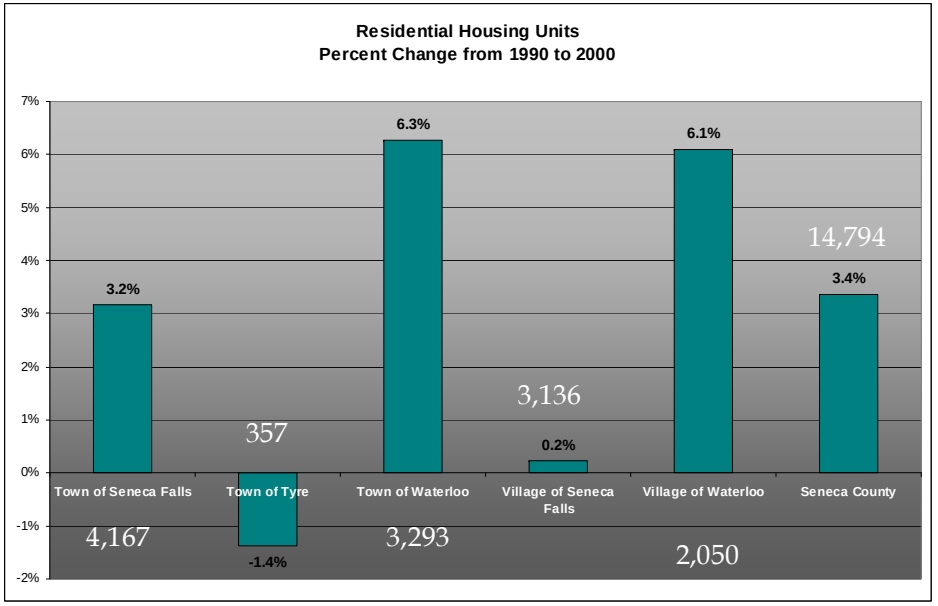




Housing Units and Occupancy

There are approximately 13,000 residential housing units within the study area communities, of which 92% are occupied. The chart to the right illustrates the changes in housing units for each community and the county as a whole.

County-wide, approximately, 74% of the housing units are owner-occupied. Most of the communities in the study area fell below the county in this category, except for the Town of Tyre, which had an owner occupancy rate of 83%.



Housing Tenure		
	Owner	Renter
Town of Seneca Falls	64.7%	35.3%
Town of Tyre	83.2%	16.8%
Town of Waterloo	71.1%	28.9%
Village of Seneca Falls	64.6%	35.4%
Village of Waterloo	70.8%	29.2%

Current Land Use

The current land use of the parcels located within the study area is summarized in the table below. Agricultural uses comprise the largest percentage of the study area's acreage, with residential as a close second. Residential properties represent the highest portion of the area's parcels and total assessed value. Although commercial development represents only 11.2% of the acreage, it accounts for 32.5% of the assessed value. As future development and redevelopment is considered, municipalities must strive to achieve a balance among various land uses to ensure a stable tax base. Some land uses, such as residential, require more services than their tax contributions can cover. Therefore, commercial/industrial development and/or agricultural lands or open space are needed to maintain the balance.

There is considerable amount of land classified as vacant. How much of the land is developable will depend on its proximity to environmentally sensitive features, access to infrastructure and adjacency to existing development.

CODE	PROPERTY CLASS	NO. OF PARCELS	% OF TOTAL	ACREAGE	% OF TOTAL	ASSESSED TOTAL VALUE	% OF TOTAL
100	Agricultural	27	1.1%	1,983.00	25.8%	$2,644,200.00	0.8%
200	Residential	1,689	65.7%	1,724.00	22.4%	$121,250,950.00	35.3%
300	Vacant	276	10.7%	1,120.00	14.6%	$11,194,448.00	3.3%
400	Commercial	404	15.7%	859.00	11.2%	$111,542,123.00	32.5%
500	Recreation & Entertainment	21	0.8%	365.00	4.8%	$14,326,400.00	4.2%
600	Community Service	67	2.6%	165.00	2.1%	$36,516,100.00	10.6%
700	Industrial	20	0.8%	253.00	3.3%	$23,515,117.00	6.9%
800	Public Services	44	1.7%	752.00	9.8%	$21,610,164.00	6.3%
900	Forest, Parks & Conservation	7	0.3%	462.00	6.0%	$438,100.00	0.1%
0	Insufficient Data	14	0.5%	0.00	0.0%	$0.00	0.0%
	TOTAL	2,569	100.0%	7,683.00	100.0%	$343,037,602.00	100.0%

Zoning

For each community in the study area, the zoning regulations were reviewed and the zoning classifications are listed. However, only those districts that fall within the study area (1,000 feet of Routes 5 & 20 and 414) are summarized below.

Town of Waterloo

A Agricultural

The general intent of this district is to "… designate areas where farming, farm-related business and extensive areas of wetlands and other natural resources are the predominant and desired land use activities. Some nonagricultural development, primarily scattered, low-density, one-family housing, has occurred, is anticipated in the future and is appropriate. Regulations and development standards should be kept to the minimum necessary to assist farm operators to maintain the viability of their businesses and to prevent serious environmental degradation." Permitted uses include two-family dwellings, churches, nursing and health related clinics, government buildings, public & private schools, crop/dairy/ livestock farming (no poultry or swine), commercial greenhouses, private stables, agricultural retail services, public utilities, cemeteries and golf courses. Specific uses are permitted with conditions and include one-family dwellings, dwelling conversions, mobile homes, modular/manufactured homes and home occupations. Special uses consist of mobile home parks, poultry & swine farming, roadside stands, bed & breakfasts, funeral homes, veterinary offices, kennels, public stables, motel/hotels, banks, non agricultural retail sales, barber/beauty shops, automobile related uses and salvage yards.

Dimensional Requirements:
Min. lot size – 30,000 sq. ft (water/sewer); 1 acre (no water/sewer)
Min. lot width – 100 feet (water/sewer); 150 feet (no water/sewer)
Front setback – 50 feet
Side setback – 15 feet
Rear setback – 15 feet
Max. bldg. height – 35 feet

R1 Low Density Residential

The Low Density Residential district is intended "…to designate areas where small concentrations of low-density, nonfarm development, primarily one-family housing, has occurred. Regulations and restrictions in the R1 District are intended to limit the extent of future development and, based on soil conditions and the likelihood of public utilities, restrict the number of nonresidential uses that can be established." Permitted uses consist of churches, parks & playgrounds, crop/ livestock/dairy farming (no poultry or swine), public utilities and golf courses. Uses permitted with special conditions include one-family dwellings, modular/manufactured dwellings and home occupations. Special uses in the district include two-

family dwellings, roadside stands, commercial greenhouses/ nurseries, funeral homes, public/private stables, professional/ business offices, banks, barber/beauty shops and vehicular fuel & services.

Dimensional Requirements:
Min. lot size – 30,000 sq. ft (water/sewer); 1 acre (no water/sewer)
Min. lot width – 100 feet (water/sewer); 150 feet (no water/sewer)
Front setback – 50 feet
Side setback – 15 feet
Rear setback – 15 feet
Max. bldg. height – 35 feet

R2 Moderate-Density Residential

The intent of this residential district is "… to designate areas where a mix of varied types of housing has concentrated. Typically, such areas will have a higher development density and be close to the village or other development concentrations. While public utilities may not yet exist in such areas, R2 Districts are likely targets for such services as funds become available." Within the district, permitted uses include two-family dwellings, churches, parks & playgrounds, crop farming, public utilities and golf courses. Special condition uses consist of one-family dwellings, dwelling conversions, modular/manufactured dwellings and home occupations. Uses that require a special permit include multifamily dwellings, nursery schools, daycare facilities, government buildings, nursing homes, health related clinics, public/private clubs, roadside stands, bed & breakfasts, funeral homes, veterinary offices, private stables and barber/beauty shops.

Dimensional Requirements:
Min. lot size - 10,000 sq. ft (1-2 dwelling units w/ water/ sewer); 5,000 sq. ft (per dwelling unit when 3+ w/ water/ sewer); 10,000 sq. ft. (nonresidential or mixed w/ water/ sewer); 1 acre (no water/sewer)
Min. lot width - 75 feet (1-2 dwelling units w/ water/ sewer); 20 feet (per dwelling unit when 3+ w/ water/ sewer, 100 min.); 75 feet (nonresidential or mixed w/ water/sewer); 150 feet (no water/sewer)
Front setback – 50 feet
Side setback – 15 feet
Rear setback – 15 feet
Max. bldg. height – 35 feet

C Commercial

Commercial districts are intended to "…designate areas where relatively dense development of mixed land uses has occurred in the past and is appropriate. Such areas provide the transportation and utility infrastructure needed to support higher development density. A variety of land uses is desirable in the C District, including retail commercial, offices, specialty shops, personal and repair services, recreation, marine navigation, public facilities, light industry, parking, limited

housing and similar types of development." Permitted uses include churches, nursery schools, daycare facilities, government buildings, public/private schools, parks & playgrounds, commercial greenhouses, bed & breakfasts, rooming houses, home occupations, veterinary offices, motel/ hotels, professional/business offices, banks, retail sales, restaurants, barber/beauty shops, mini-warehouses, automobile related uses (including fuel and service, sales, washes), commercial assembly, general processing and public utility. Specially permitted uses include mobile home parks, public/ private clubs, roadside stands, funeral homes, kennels, public/ private stables, recreational automobile track, warehouse, truck/motor freight/construction terminal, towers and campgrounds.

Dimensional Requirements:
Min. lot size – 10,000 sq. ft (1-2 dwelling units w/ water/ sewer); 4,000 sq. ft (per dwelling unit when 3+ w/ water/ sewer); 10,000 sq. ft. (nonresidential or mixed w/ water/sewer); N/A when no water/sewer
Min. lot width – 75 feet (w/ water/sewer); N/A (no water/sewer)
Front setback – 50 feet
Side setback – 15 feet
Rear setback – 15 feet
Max. bldg. height – 35 feet

<u>I Industrial</u>
The general intent of this district is to "…designate areas where some form of manufacturing, fabrication, assembly, research and development, storage and similar types of land use are appropriate and desired. Some types of commercial development can also be appropriate in an I District, but residential development should be limited. Suitable vehicular access and the availability of water and sewer services are critical components of development in an I District." Permitted uses in the district include printing/publishing establishments, commercial assembly, general processing, research/design/production facilities, warehouses, truck/motor freight/construction terminal and public utilities. Specially permitted uses include vehicle wrecking/salvage yards, towers, solid waster recycling/transfer station and adult uses.

Dimensional Requirements:
Min. lot size – N/A
Min. lot width – N/A
Front setback – 50 feet
Side setback – 15 feet
Rear setback – 15 feet
Max. bldg. height – 35 feet

<u>MU Multiple Use</u>
The MU district "…permit[s] all uses allowed in R1, R2 and C that are compatible with existing uses in the MU District." Permitted uses consist of two-family dwellings, churches and

public utilities. Permitted uses with special conditions include one-family dwellings, dwelling conversions and modular/ manufactured dwellings. Specially permitted uses consist of multifamily dwellings, nursery schools, nursing homes, government buildings, public/private schools, commercial greenhouses, roadside stands, bed & breakfasts, home occupations, funeral homes, veterinary offices, kennels, public/ private stables, professional/business offices, motel/hotels, general retail sales, restaurants, barber/beauty shops, convenience stores, vehicular fuel & service and campgrounds

Dimensional Requirements:
Min. lot size – Not specified
Min. lot width – Not specified
Front setback – Not specified
Side setback – Not specified
Rear setback – Not specified
Max. bldg. height – Not specified

Village of Waterloo

The Village of Waterloo consists of nine zoning districts, with the majority of those districts related to residential uses. Within the project corridor, the only district that is not included is the Heavy Industrial (HI) district. The remaining districts in the Town that fall within the project corridor include:

- R-1 Residential
- R-2 Residential
- R-3 Residential
- R-4 Residential
- SD Service District
- GB General Business
- CB Central Business
- LI Light Industrial

R-1 Residential

This district "… designate[s] areas where low-density, one-unit dwellings constitute the existing and desired future development character and where substantial restrictions on the use of land and the density of development are necessary to preserve present character and protect the economic value…" Permitted uses include single-family homes and specially permitted uses consist of religious and educational uses, public utilities, accessory uses, home occupations, residential-design manufactured homes, and conversions.

Dimensional Requirements:
Min. lot size – 7,500 sq. ft
Min. lot width – 75 feet
Front setback – 25 feet
Side setback – 7 feet
Rear setback – 25 feet
Max. bldg. height – 35 feet
Lot Coverage – 30%

R-2 Residential

Allowing for a slightly higher density compared to R1, the R2 district is "… primarily one-unit dwellings with a small (secondary) portion of two-unit dwelling structures." Permitted uses consist of single- and two-family homes as well as duplexes. Specially permitted uses are the same as in the R1 district.

Dimensional Requirements:
Min. lot size – 6,000 sq. ft
Min. lot width – 60 feet
Front setback – 25 feet
Side setback – 7 feet
Rear setback – 25 feet
Max. bldg. height – 35 feet
Lot Coverage – 30%

R-3Residential

The R-3 district allows for "… a variety of dwelling types, including multiple-unit dwellings and townhouses, and a low to moderate population density." Preservation of existing neighborhood character and economic value of existing areas is also a primary intent within the district. Single- and two-family homes, duplexes, and three-family homes are permitted in the district. Bed and breakfasts, in addition to those special uses indicated in the R-1 and R-2 districts, and allowed by special use permit.

Dimensional Requirements:
Min. lot size – 4,000 sq. ft
Min. lot width – 35 feet
Front setback – 25 feet
Side setback – 7 feet
Rear setback – 25 feet
Max. bldg. height – 35 feet
Lot Coverage – 30%

R-4 Residential

The intent of the R-4 district is "…to designate areas where a broad range of dwelling unit types is presently available and is desired as the future development character." A "limited mixture of commercial activity" is also included in the district's intent. Permitted uses reflect the same uses allowed in the R-3 district, while the specially permitted uses allow additional uses such as housing development projects, mixed uses with apartments, non-transient roomer, and mobile home parks.

Dimensional Requirements:
Min. lot size – 8,000 sq. ft
Min. lot width – 100 feet
Front setback – 20 feet
Side setback – 7 feet
Rear setback – 20 feet
Max. bldg. height – 35 feet
Lot Coverage – 75%

SD Service District

Located throughout the Village, the Service District "… provides neighborhood convenient services mixed with or adjacent to residential areas." Various neighborhood-level services are permitted in the district, including, but not limited to, ambulance service, artist studios, bakeries, barber/beauty shops, clubs, food markets, public schools, upholsterer, florists, day-care facilities and banks. Churches, conversions, gas and/or motor vehicle service stations, libraries, private schools, professional offices, hospitals, nursing homes, and recreational facilities and golf courses are some of the uses allowed by special use permit.

Dimensional Requirements:
Min. lot size – 5,000 sq. ft
Min. lot width – 50 feet
Front setback – 20 feet
Side setback – 5 feet
Rear setback – 20 feet
Max. bldg. height – 60 feet
Lot Coverage – 75%

GB General Business

In general, the intent of the General Business district is found along the major traffic routes in the Village and allows for higher and more intensive areas for commercial activity. Permitted uses follow the same general commercial and business uses that are allowed in the Service district. Specially permitted uses include shopping centers, adult uses, theaters, amusement centers, bus stations, libraries, hotels/motels, greenhouses, parking garages, regulated sexually-oriented adult businesses, and townhouses as well as other similar uses.

Dimensional Requirements:
Min. lot size – 5,000 sq. ft
Min. lot width – 50 feet
Front setback – 10 feet
Side setback – 5 feet
Rear setback – 20 feet
Max. bldg. height – 60 feet
Lot Coverage – 90%

CB Central Business

At the core of the Village is the Central Business district. This district "…provides for intense service and commercial land uses in a dense area." Pedestrian-oriented activities and uses are also encouraged in this district as it also "…serves as [the] cultural and historical point for the community." Antique dealers, home occupations, artist studios, limited businesses, banks, bakeries, business offices, police station, clubs, drugstores, dry cleaner, florist, tavern, newsstands, and duplexes are some of the uses allowed by right. Specially permitted uses are limited to apartments on 2nd and 3rd floors, retail and outlet malls, signs, and regulated sexually oriented adult businesses.

Dimensional Requirements:
Min. lot size – N/A
Min. lot width – N/A
Front setback – N/A
Side setback – N/A
Rear setback – N/A
Max. bldg. height – 60 feet
Lot Coverage – 100%

LI Light Industrial

The Light Industrial district "…retain[s] and attract[s] industry within the Village that does not consist of intense industrial activity … encourages clean or soft industries which will not disrupt the adjacent areas…" Performance standards must be met for light industrial uses as well to ensure compatibility with the surrounding area. Permitted uses include, but are not limited to, auction houses, animal hospitals, commercial dry cleaning, parking lots, scientific research/testing, and storage buildings/yards. Transportation terminals, publishing operations, printers, building material sales yards, warehousing, recycling centers, and chemical and pharmaceutical production facilities are some of the uses allowed by special permit.

Dimensional Requirements:
Min. lot size – 15,000 sq. ft
Min. lot width – 100 feet
Front setback – 25 feet
Side setback – 20 feet (15 feet plus building height with a buffer when adjacent to residential)
Rear setback – 25 feet (15 feet plus building height with a buffer when adjacent to residential)
Max. bldg. height – 60 feet
Lot Coverage – 80%

Town of Seneca Falls

The Town of Seneca Falls is divided into ten zoning districts with one zoning overlay as shown below. With the exception of the Local Shopping (C-1) and Land Conservation (L-C) District, all of the districts are found within the study area. None of the districts include an intent statement, which gives a general direction for the types of uses permitted. Therefore, a summary of the permitted and special uses is presented as well as the dimensional lot requirements.

- AG-1 Agricultural
- AG-2 Agricultural
- R-1 Single-Family Residential
- R-2 Two-Family and Multifamily Residential
- C-1 Local Shopping
- C-2 Highway Commercial
- M-1 Industrial
- M-2 Refuse Disposal and Reclamation
- L-C Land Conservation
- F-P Floodplain
- W Wetland Overlay

AG-1 Agricultural

Permitted Uses: one-family residential, churches, public buildings, essential services, and primary and secondary schools. Permitted Uses with Special Conditions: home occupations, nurseries/greenhouses/farm occupations, off-street parking & loading, outdoor recreation, signs and roadside stands. Special Uses: airport and related uses, bed& breakfasts, electric plants and transmission stations, stone/sand/gravel extraction, golf courses & driving ranges, kennels, pet breeders, parks/athletic/outdoor recreation facilities, post-secondary schools, vocational-technical schools, mobile home parks, camping grounds and recreational vehicle parks.

Dimensional Requirements:
No water/sewer
Min. lot size - 1.5 acres
Min. lot width – 200 feet
Water only
Min. lot size - 1 acre
Min. lot width – 150 feet
Water & Sewer
Min. lot size – 30,000 sq. ft.
Min. lot width – 150 feet
All lots
Lot depth – 200 feet
Front setback – 50 feet
Rear setback – 50 feet
Side setback – 25 feet
Max. building height – 35 feet/2.5 stories
Max. lot coverage – 15 percent

AG-2 Agricultural

Permitted Uses: Same as AG-1
Permitted Uses with Special Conditions: Same as AG-1
Special Uses: Same as AG-1, with the exception of airport and related uses, these are not permitted.

Dimensional Requirements:

Same as AG-1

R-1 Residential

Permitted Uses: Churches, one-family residential, primary and secondary schools and public buildings.
Permitted Uses with Special Conditions: Home occupations, essential services, off-street parking/loading and signs.
Special Uses: Bed & breakfast, cluster developments, planned unit developments and post-secondary schools.

Dimensional Requirements:
No water/sewer
Min. lot size – 30,000 sq. ft.
Min. lot width – 150 feet
Water only
Min. lot size - 30,000 sq. ft.

Min. lot width – 100 feet (must also have sewer)
Water & Sewer
Min. lot size – 15,000 sq. ft.
Min. lot width – 100 feet
All lots
Lot depth – 150 feet
Front setback – 30 feet
Rear setback – 30 feet
Side setback – 15 feet
Max. building height – 35 feet/2.5 stories
Max. lot coverage – 25 percent

R-2 Residential

Permitted Uses: Churches, primary and secondary schools, one-family residential, two-family residential and public buildings.
Permitted Uses with Special Conditions: Home occupations, essential services, off street parking/loadings and signs.
Special Uses: Bed & breakfasts, cluster developments, multifamily structures (including conversions) and post-secondary schools.

Dimensional Requirements:
No water/sewer or water only
Not permitted
Water & Sewer
Min. lot size – 15,000 sq. ft. (7,500 sq. ft./dwelling unit for multifamily, 40,000 sq. ft. min.)
Min. lot width – 100 feet (200 ft. for multifamily)
All lots
Lot depth – 150 feet
Front setback – 30 feet (50 feet for multifamily)
Rear setback – 30 feet (40 feet for multifamily)
Side setback – 15 feet (20 feet for multifamily)
Max. building height – 35 feet/2.5 stories
Max. lot coverage – 30 percent

C-2 Highway Commercial

Permitted Uses: Auto repair and service (not including automobile service stations), auto salesroom, eating & drinking establishments, essential services, farm machinery sales, highway-related business use, local retail business, mobile homes sales, offices & banks, personal services, public buildings and used car lots.
Permitted Uses with Special Conditions: Amusement centers/ bowling alleys/similar places of enclosed amusement, drive-in eating & drinking establishments, motels, off-street parking/ loading, outdoor recreation facilities and signs.
Special Uses: Automobile service stations and drive-in theatres.

Dimensional Requirements:
No water/sewer or water only
Min. lot size – 1 acre
Min. lot width – 100 feet
Water & Sewer

Min. lot size – 20,000 sq. ft.
Min. lot width – 100 feet
All lots
Lot depth – 150 feet
Front setback – 50 feet
Rear setback – 30 feet
Side setback – 20 feet
Max. building height – 35 feet/2 stories
Max. lot coverage – 35 percent

M-1 Industrial

Permitted Uses: Enclosed warehousing, essential services, lumber/building/similar storage yards, ministorage, nurseries/ greenhouses/farms/customary farm occupations, public buildings, railroad facilities and wholesale businesses. Permitted Uses with Special Conditions: Manufacture/ assembly/research, off-street parking/loading and signs. Special Uses: Coal yards & fuel supply depots, electric power plants & transmission stations, stone/sand/gravel extraction and adult uses.

Dimensional Requirements:
Min. lot size – 1 acre
Min. lot width – 100 feet
Lot depth – 150 feet
Front setback – 50 feet
Rear setback – 30 feet
Side setback – 20 feet
Max. building height – 35 feet/2 stories
Max. lot coverage – 35 percent

M-2 Refuse Disposal and Reclamation

Permitted Uses: Same as M-1.
Permitted Uses with Special Conditions: Same as M-1.
Special Uses: Coal yards & fuel supply depots, electric power plants & transmission stations, stone/sand/gravel extraction, solid waster management facility and junkyards.

Dimensional Requirements:
Min. lot size – 1 acre
Min. lot width – 100 feet
Lot depth – 150 feet
Front setback – 50 feet
Rear setback – 30 feet
Side setback – 20 feet
Max. building height – 35 feet/2 stories
Max. lot coverage – 35 percent

F-P

Permitted Uses: Nurseries/greenhouses/farms/customary farm occupations. Permitted Uses with Special Conditions: Roadside stands. Special Uses: Essential services, stone/sand/gravel extraction and parks/athletic facilities/outdoor recreation facilities.

Dimensional Requirements:

Lot dimensions, width, depth, setback, building height and lot coverage are the same as the district that is adjacent to the Floodplain District. Within the corridor, the lot dimensions on the south side of Black Brook would be the same as the M-1 district and the north side would be the A-2 district.

Village of Seneca Falls

The Town of Seneca Falls is divided into nine zoning districts as shown below. All of the zoning districts, with the exception of the Mobile Home Park District (M-P) were located in the study area.

- R-1 Single-Family Residential District
- R-2 Two-Family Residential District
- R-3 Three- and Four-Family Residential District
- M-R Multifamily Apartment Building District
- C-1 Local Retail Shopping District
- C-2 General or Highway Commercial District
- M-1 Industrial District
- M-P Mobile Home Park District
- L-C Land Conservation District

R-1 Single-Family Residential

The intent of the R-1 district is to "…[1] delineate those areas where predominantly residential development has … or will likely to occur … [2] upgrade the character of all residential areas in the village by requiring standards … [3] protect the integrity of residential areas by prohibiting … incompatable nonresidential uses." Permitted uses include one-family detached dwellings, churches or similar places of worship, public elementary & high schools, public parks & playgrounds and libraries/museums. Special uses include community buildings, social halls, lodges and fraternal organizations; large-scale residential development; golf courses & public swimming pools; essential services; cluster development; and hospitals.

Dimensional Requirements:
Min. lot area – 8,400 sq. ft.
Min. lot area/dwelling unit – 8,400 sq. ft.
Min. lot width – 70 feet
Min. lot depth – 120 feet
Front yard (setback) – 30 feet
Side yard (setback) – 10 feet (20 feet both sides)
Rear yard (setback) – 30 feet
Max. bldg. height – 35 feet/2.5 stories
Max. lot coverage – 30 percent

R-2 Two-Family Residential

The general intent of the R-2 district is to "delineate those areas where predominantly residential development has … or will occur at 2-family densities…" Permitted uses include those specified in the R-1 district as well as two-family dwellings. Special uses include those in the R-1 district in addition to bed & breakfast operations.

Dimensional Requirements:
Min. lot area – 5,000 sq. ft.
Min. lot area/dwelling unit – 5,000 sq. ft.
Min. lot width – 50 feet
Min. lot depth – 100 feet
Front yard (setback) – 25 feet
Side yard (setback) – 10 feet (20 feet both sides)
Rear yard (setback) – 30 feet
Max. bldg. height – 30 feet/2.5 stories
Max. lot coverage – 30 percent

R-3 Three and Four-Family Residential (Conversion)
The general intent of this district is to "delineate those areas where larger old homes have been or are likely to be converted to 3- and 4-family residential densities…" In addition to the permitted uses specified in the R-2 district, 3- and 4-family dwelling are also permitted. Special uses include all uses specially permitted in the R-2 district.

Dimensional Requirements:
Min. lot area – 10,000 sq. ft.
Min. lot area/dwelling unit – 3,000 sq. ft.
Min. lot width – 50 feet
Min. lot depth – 100 feet
Front yard (setback) – 20 feet
Side yard (setback) – 10 feet (15 feet both sides)
Rear yard (setback) – 30 feet
Max. bldg. height – 30 feet/2.5 stories
Max. lot coverage – 40 percent

M-R Multifamily Residential (Apartment Buildings)
The general intent of this district is to "delineate those areas where multifamily apartment buildings are now built or are likely to be built…" Permitted and specially permitted uses are the same as the R-3 district.

Dimensional Requirements:
Min. lot area – 2 acres
Min. lot area/dwelling unit – 3,000 sq. ft.
Min. lot width – 200 feet
Min. lot depth – 150 feet
Front yard (setback) – 50 feet
Side yard (setback) – 50 feet (50 feet both sides)
Rear yard (setback) – 50 feet
Max. bldg. height – 20 feet/3 stories
Max. lot coverage – 30 percent

C-1 Local Shopping
The general intent of the district is to "delineate a centralized area where shopping, recreation and cultural facilities are provided for the village as a whole." Permitted uses include any personal service establishments (including eating & drinking establishments, hardware stores, food stores clothing stores or drug stores), business & professional offices, hotels & motels, essential services and non-ground floor dwellings.

Specially permitted uses include automobile service stations and funeral homes only.

Dimensional Requirements:
Min. lot area – 5,000 sq. ft.
Min. lot area/dwelling unit – N/A
Min. lot width – 50 feet
Min. lot depth – 100 feet
Front yard (setback) – The average of the block
Side yard (setback) – None
Rear yard (setback) – 25 feet
Max. bldg. height – In aesthetic conformity with the block.
Max. lot coverage – 85 percent

C-2 General Commercial

The general intent of this district is to "delineate predominantly commercial areas intended to serve the daily needs of surrounding residential areas and highway users." Permitted uses include those listed in the C-1 district as well as automobile sales rooms and mobile home sales, motels, farm machinery sales, other business uses which primarily serve highway users (including restaurants and bars, automobile repair and service stations and used car lots). Specially permitted uses include large scale developments, commercial amusement (drive-in theatres, amusement centers, golf driving ranges and miniature golf), small truck terminals and adult uses.

Dimensional Requirements:
Min. lot area – 10,000 sq. ft.
Min. lot area/dwelling unit – N/A
Min. lot width – 80 feet
Min. lot depth – 120 feet
Front yard (setback) – 30 feet
Side yard (setback) – 10 feet (20 feet both sides)
Rear yard (setback) – 25 feet
Max. bldg. height – 25 feet/2 stories
Max. lot coverage – 40 percent

M-1 Industrial

The M-1 district "delineate[s] areas best suited to industrial development because of location, topography, existing facilities and relationship to other land uses. Uses that are incompatible with industry are not permitted." Permitted uses include any manufacturing, assembly or other industrial or research operation meeting the requirements of the performance standards; farms, farm uses and customary farm occupations; warehouses for enclosed storage; distribution plants; and wholesale businesses. Specially permitted uses include large-scale industrial parks, junkyards and automobile service and repair stations.

Dimensional Requirements:
Min. lot area – 15,000 sq. ft.
Min. lot area/dwelling unit – N/A
Min. lot width – 100 feet
Min. lot depth – 150 feet
Front yard (setback) – 25 feet

Side yard (setback) – 15 feet (25 feet both sides) (50 feet from any R-1 or R-2 district)
Rear yard (setback) – 25 feet
Max. bldg. height – 40 feet/3 stories
Max. lot coverage – 40 percent

LC Land Conservation

The general intent of the L-C district is to "delineate those areas where substantial development of the land in the form of buildings or structures is prohibited due to (1) special or unused conditions of topography, drainage, floodplain or other natural conditions whereby considerable damage to buildings or structures and possible loss of life may occur due to the processes of nature or (2) the lack of proper facilities or improvements resulting in the land not being suitable for development at the present time and on an areawide rather than individual parcel basis in order to serve adequately the area at reasonable cost to the village." No uses are permitted. Special uses include farm and other agricultural operations; parks, golf courses, athletic fields and other similar uses; essential services; and disposal facilities, landfill operations and similar uses.

Dimensional Requirements:
Min. lot area – 20,000 sq. ft.
Min. lot area/dwelling unit – 20,000 sq. ft.
Min. lot width – 150 feet
Min. lot depth – 150 feet
Front yard (setback) – 40 feet
Side yard (setback) – 20 feet (30 feet both sides)
Rear yard (setback) – 50 feet
Max. bldg. height – 35 feet/2.5 stories
Max. lot coverage – 10 percent

Town of Tyre

Zoning in the Town of Tyre consists of four zones:

- A Agricultural
- R Residential
- B Business
- I Industrial

All four of these districts are found in the study area; a summary of each district is shown below.

A Agricultural

The general intent of the Agricultural (A) district is to "…retain and promote agricultural and related uses of the land while allowing some development of scattered single-family dwellings. Permitted uses in the district include farm buildings, public and commercial trails, boarding houses, churches, commercial greenhouses, day camps, home occupations, manufactured homes on individual lots, factory-built nonresidential structures, public utilities, two-family dwellings, single-family dwellings, veterinary services and tourist home/ bed & breakfasts.

Specially permitted uses include commercial livestock operations, agricultural service establishments, airports, limited/

retail/wholesale business, commercial feed lots, commercial kennels, group homes, commercial marinas, mining/extraction operations, manufactured home developments, hotels/motels, motor vehicle repair, multifamily dwellings, gas stations, recreation/sports complexes, restaurants and shopping centers.

Dimensional Requirements:
Min. lot size - 1 acre
Min. lot width - 150 feet
Front setback - 50 feet (dwellings), 75 feet (other)
Side setback - 10 feet
Rear setback - 40 feet
Max. lot coverage - N/A

R Residential

In the Residential (R) district, the intent is "…to promote residential development in areas of the community where they may eventually be serviced by public services and where there may be the least negative impact between residential and other uses." Permitted uses include single-family dwellings, two-family dwellings, farm buildings, factory-built structures on a separate lot, and manufactured homes on a separate lot. Uses that require special permits consist of multifamily dwellings, boardinghouses, churches, agricultural service establishments, limited and retail businesses, motor vehicle repair shops, public utilities, tourist home/bed and breakfasts, and veterinary services.

Dimensional Requirements:
Min. lot size – 1 acre
Min. lot width - 150 feet
Front setback – 50 feet (dwellings), 75 feet (other)
Side setback – 10 feet
Rear setback – 40 feet
Max. lot coverage – N/A

B Business

In the Business (B) District, the intent is to "… promote business development at advantageous locations for the convenience of the public and to minimize interference with residential development." Permitted uses include farm buildings, agricultural service establishments, boardinghouses, limited, retail, and wholesale business, churches, commercial greenhouses, commercial kennels, home occupations, hotel/motel, motor vehicle repair shop, multifamily dwellings, gas stations, private clubs, recreational/sports complex, tourist home/bed & breakfast, and veterinary services. Special use consist of public and commercial trails, airports, campgrounds, group homes, factory-built structures on separate lot, public utilities and public service buildings, and shopping centers.

Dimensional Requirements:
Min. lot size – 1 acre
Min. lot width – 150 feet
Front setback – 50 feet (dwellings), 75 feet (other)
Side setback – 15 feet
Rear setback – 40 feet
Max. lot coverage – N/A

I Industrial

The general intent of the Industrial (I) district is to "…promote industrial development in an area where it will have the least impacts on other uses in the community." Permitted uses consist of commercial distilling of alcohol, non-dwelling farm buildings, agricultural service establishments, limited/retail/ wholesale businesses, commercial greenhouses or kennels, home occupations, light industry, motel/hotel, motor vehicle repair shop, gas stations, recreational/sports complexes, restaurants and veterinary services. Specially permitted uses include swine or poultry commercial operations, public and commercial trails, adult uses, airports, commercial antennas, junkyards/salvage yards, mining and extraction operations, factory-built non-residential buildings on individual lots, public services, telecommunications towers and shopping centers.

Dimensional Requirements:
Min. lot size – 1 acre
Min. lot width – 150 feet
Front setback – 50 foot (dwellings), 75 feet (other)
Side setback – 30 feet
Rear setback – 40 feet
Max. lot coverage – N/A

Summary of Existing Zoning

The varied zoning classifications, permitted and specially permitted uses and bulk and use requirements for the corridors across municipal lines does not currently promote consistent development patterns or styles. Additionally, all of the zoning codes lack sufficient sign regulations, landscaping and buffering requirements, which has resulted in the creation of "visual clutter" along the corridors.

Opportunities for future zoning code enhancements include design standards or guidelines; improved sign regulations, and inter-municipal overlay districts to improve consistency.

Improved sign regulations should address how and where signs can be installed along the corridors to ensure their design and placement support the community's goals for economic development and community enhancement.

Insufficient buffering and landscaped or hardscaped screening can result in unattractive roadside views.

Build-Out Analysis

A build-out analysis is a common land development tool that gives a community a glimpse into their future when all buildable land is developed to the maximum extent under the current zoning and subdivision regulations. Buildable land is typically land that classified as vacant, but, in rural areas, can also include agricultural lands as well. This is especially evident where agricultural lands are zoned for uses other than agricultural purposes, such as single-family residential or commercial uses. Non-buildable features, such as existing protected areas (parks, etc.) or sensitive environmental features (floodplains, wetlands, etc.), are excluded from the build-out analysis.

First, the number of developable parcels in the corridor are identified according to their land use classification. As shown in this table, the majority of the developable parcels are classified as vacant; however, agricultural parcels account for a much greater acreage. The Town of Seneca Falls holds the majority of the vacant and agricultural parcels. From this information, the non-buildable features are removed and the maximum development potential was determined based on existing land development regulations.

Divided between commercial (including industrial, manufacturing, retail and other uses) and residential development is the simplest method of showing build-out potential. This table shows that the potential for more development exists in the corridor, especially in the Town of Seneca Falls for commercial uses.

Detailed tables for each Town and Village as well as methodology for the analysis is found in Appendix B at the end of this study.

Potential Developable Parcels

Municipality	Agricultural		Vacant	
	No. Parcels	Total Acreage	No. Parcels	Total Acreage
Town of Tyre	5	261	13	125
Town of Waterloo	4	304	74	173
Town of Seneca Falls	14	965	49	520
Village of Seneca Falls	1	23	56	64
Village of Waterloo	0	0	59	17
TOTAL	24	1,553	251	899

Summary of Development Potential

Municipality	Acreage*	Commercial SF	Residential Lots
Town of Tyre	297.30	530,400	244
Town of Waterloo	381.50	1,436,500	1,801-2,000 [1]
Town of Seneca Falls	899.70	4,058,400	491-1,055 [1]
Village of Seneca Falls	69.92	472,000	123
Village of Waterloo	12.40	41,600	67
TOTAL	1,660.82 acres	6,538,900 SF	2,726-3,489 units

***Total acreage = potential developable lands - sensitive environmental features and 20% reduction for improvements (roads, driveways, etc.)**

[1] Unit range due to a development variable such as number of dwelling units or if sewer/water is available.

Traffic Analysis

Traffic Conditions

Traffic conditions were analyzed for nine study area intersections during the weekday evening peak hours (4:00 p.m. - 6:00 p.m.) and Saturday peak hours (10:00 a.m. - 12:00 p.m.). The results of the data collection are shown on page 34. All of the data collected, including Synchro Analysis, are contained in Appendix C of the plan.

Turning movement counts for the 96 and 96A intersections were taken from the Lowes study. Counts for the Route 414/ Balsey and Route 414/5&20 intersections were taken from the Wal-Mart study. The old study counts were grown by one-percent per year to 2009. Finally, the Lowes and Wal-Mart trips were added in and extrapolated through the study area where needed. The rest of the counts were taken in current time.

Based on historical traffic volume data in the area, the average annual traffic growth rate in the area is generally negative or less than 0.5 percent for all roadway sections reviewed. A one-percent growth per year assumption for conservative analysis.

The Level of Service Summary for current conditions, which is provided on page 34, also included the completed Lowes and

Level of Service

The Levels of Service for both signalized and unsignalized intersections are defined in terms of control delay. Control delay is a measure of the total travel time lost and includes slowing delay, stopped delay, queue move-up time and start-up lost time. Level of Service thresholds are defined as average delay in seconds per vehicles over a fifteen-minute analysis period and range from Level of Service A to F for both signalized and unsignalized intersections. The following provides a summary of the Level of Service thresholds as defined in the Highway Capacity Manual.

Level of Service	Signalized Thresholds	Unsignalized Thresholds
A – Little or no delay	Less than 10.0 seconds	Less than 10.0 seconds
B – Minor, short delays	10.1 to 20.0 seconds	10.1 to 15.0 seconds
C – Average delays	20.1 to 35.0 seconds	15.1 to 25.0 seconds
D – Long but acceptable delays	35.1 to 55.0 seconds	25.1 to 35.0 seconds
E – Long, near unacceptable delays	55.1 to 80.0 seconds	35.1 to 50.0 seconds
F – Unacceptable delays	More than 80.0 seconds	More than 50.0 seconds

An overall intersection Level of Service D or better is generally considered acceptable at a signalized intersection. A signalized intersection Level of Service below D indicates that the average control delay per vehicle will exceed 55.0 seconds.

An overall intersection Level of Service E or better is generally considered acceptable at an unsignalized intersection with a Level of Service below E indicating that the delay per vehicle will exceed 50.0 seconds. The level of service thresholds are lower for an unsignalized intersection because drivers generally expect lower delays at unsignalized intersections verses signalized ones.

Route 5 & 20 / 414 Corridor Study
Town & Villages of Seneca Fall & Waterloo, Town of Tyre

Level of Service Summary

Intersection	2009 Evening Peak Hour	2009 Saturday Peak Hour
Route 414 @ Route 318	**B(16)**	**B(16)**
EB Left	B(12)	C(21)
EB Through/Right	B(11)	B(18)
WB Left	B(11)	C(22)
WB Through/Right	B(11)	C(21)
NB Left	B(19)	B(16)
NB Through/Right	C(22)	B(11)
SB Left	C(24)	B(15)
SB Through/Right	B(17)	B(12)
Route 414 @ Route Balsey Road	**C(22)**	**B(18)**
EB Left	B(19)	B(18)
EB Through/Right	C(24)	C(21)
WB Left	D(38)	B(18)
WB Through/Right	B(19)	B(18)
NB Left	B(12)	A(10)
NB Through/Right	B(19)	B(15)
SB Left	A(9)	A(8)
SB Through/Right	C(24)	C(21)
Route 414 @ Route 5 & 20	**D(55)**	**D(47)**
EB Left	C(34)	D(37)
EB Through/Right	C(23)	C(21)
WB Left	B(16)	B(16)
WB Through	C(34)	D(39)
WB Right	A(7)	A(8)
NB Left/Through/Right	F(151)	F(130)
SB Left/Through	F(104)	F(86)
SB Right	A(4)	A(4)
Route 5 & 20 @ Balsey Road	**B(11)**	**A(9)**
EB Left	B(11)	A(10)
EB Through	B(11)	A(9)
WB Through/Right	B(11)	A(8)
SB Left/Right	B(16)	B(13)
Route 5 & 20 @ Route 96	**C(24)**	**B(14)**
EB Left/Through/Right	C(25)	B(16)
WB Left/Through/Right	B(16)	A(8)
NB Left/Through	C(24)	C(21)
NB Right	B(13)	B(11)
SB Left/Through/Right	D(45)	C(24)

Route 5 & 20 / 414 Corridor Study
Town & Villages of Seneca Fall & Waterloo, Town of Tyre

Level of Service Summary

Intersection	2009 Evening Peak Hour	2009 Saturday Peak Hour
Route 5& 20 @ Route 96A / Town Road	**C(29)**	**C(25)**
EB Left	D(41)	D(42)
EB Through	C(33)	C(22)
WB Left	D(42)	D(44)
WB Through	C(31)	D(37)
WB Right	A(7)	A(9)
NB Left	C(24)	C(21)
NB Through	B(18)	B(13)
SB Left	D(44)	D(46)
SBThrough	D(40)	C(30)
SB Right	A(4)	A(5)
Route 5 & 20 @ Fall Street / Route 414	**B(14)**	**B(11)**
EB Left	B(18)	C(23)
EB Through/Right	A(4)	A(5)
WB Left/Through/Right	D(40)	C(27)
NB Left	B(13)	A(9)
NB Through/Right	B(12)	A(8)
SB Left/Through	C(21)	B(16)
SB Right	A(5)	A(4)
Route 5 & 20 @ Route 318		
EB Left	a(1)	a(1)
EB Through	a(0)	a(0)
WB Through/Right	a(0)	a(0)
SB Left/Right	c(25)	e(37)
Route 5 & 20 @ Route 89	**B(13)**	**B(13)**
EB Left/Through/Right	B(14)	B(15)
WB Left/Through/Right	B(13)	B(11)
NB Left/Through/Right	A(9)	B(12)
SB Left/Through/Right	A(9)	B(14)

B(15) – Signalized Level of Service (Average Delay Per Vehicle in Seconds)
c(19) – Unsignalized Level of Service (Average Delay per Vehicles in Seconds)

Walmart developments. In general, the only area that showed any operational issue under existing conditions is the intersection of Route 414 with Route 5/20. With only one lane northbound and one southbound left/through lane, the north/south movements are failing during both peak hours. The only other location of any concern is the Route 318 / Route 5& 20 intersection where we see Levels of Service E during the Saturday peak hour. This is acceptable for now, but will likely begin to degrade in the near future. Although concerns about increased traffic and congestion were reported by the community, the data suggest current conditions are largely acceptable.

Accident Data

Accident data from the New York Statement Department of Transportation (NYSDOT) was obtained and reviewed to determine whether any improvements may be needed to improve safety along the corridors. There was only data for the intersection of Route 414 at Route 318, Balsey Road, Route 5/20 (west overlap), and Route 5/20 (east overlap – Fall Street) for a three year period from October 2005 to September 2008. It is reasonable to assume that there were no accidents at the other study area intersections.

There were 11 accidents over three years at Routes 414/318. Though not calculated out, this would likely be a high accident location. Six of the accidents (55 percent) involved left turning vehicles. This would indicate the need to investigate whether left turn phasing should be added to this signal.

There were five accidents at the Route 414 / Balsey Road intersection. This intersection will be modified with left turn lanes as part of the Walmart project, which may improve operations and safety through this area.

SR 414 @ SR 318		
Type	Number of Accidents	Percent of Total
Right Angle	3	21%
Left Turn	6	43%
Rear End	4	29%
Overtaking	0	0%
Pedestrian	0	0%
Non-Reportable	1	7%
TOTAL	14	100%

SR 414 @ Balsey Road		
Type	Number of Accidents	Percent of Total
Right Angle	3	60%
Left Turn	0	0%
Rear End	2	40%
Overtaking	0	0%
Pedestrian	0	0%
Non-Reportable	0	0%
TOTAL	5	100%

The were seven accidents at the west Routes 5/20/414 intersection. Five of the accidents (71 percent) involved northbound or southbound left turn movements. This is likely due to the heavy congestion for these movements as identified in the capacity analysis. Improvements to either the signal timings or roadway geometry should be considered to increase capacity which would also serve to reduce accidents.

There were four accidents at the Fall Street/414/5/20 east overlap intersection. They are scattered by type, movement and cause, which does not indicate trend at this location.

SR 414 @ SR 5/20 (west overlap)		
Type	Number of Accidents	Percent of Total
Right Angle	1	14%
Left Turn	5	71%
Rear End	1	14%
Overtaking	0	0%
Pedestrian	0	0%
Non-Reportable	0	0%
TOTAL	7	100%

SR 414 @ SR 5/20 (east overlap)		
Type	Number of Accidents	Percent of Total
Right Angle	0	0%
Left Turn	0	0%
Rear End	3	75%
Overtaking	0	0%
Pedestrian	1	25%
Non-Reportable	0	0%
TOTAL	4	100%

Current Conditions

Route 5 & 20 / 414 Corridor Study

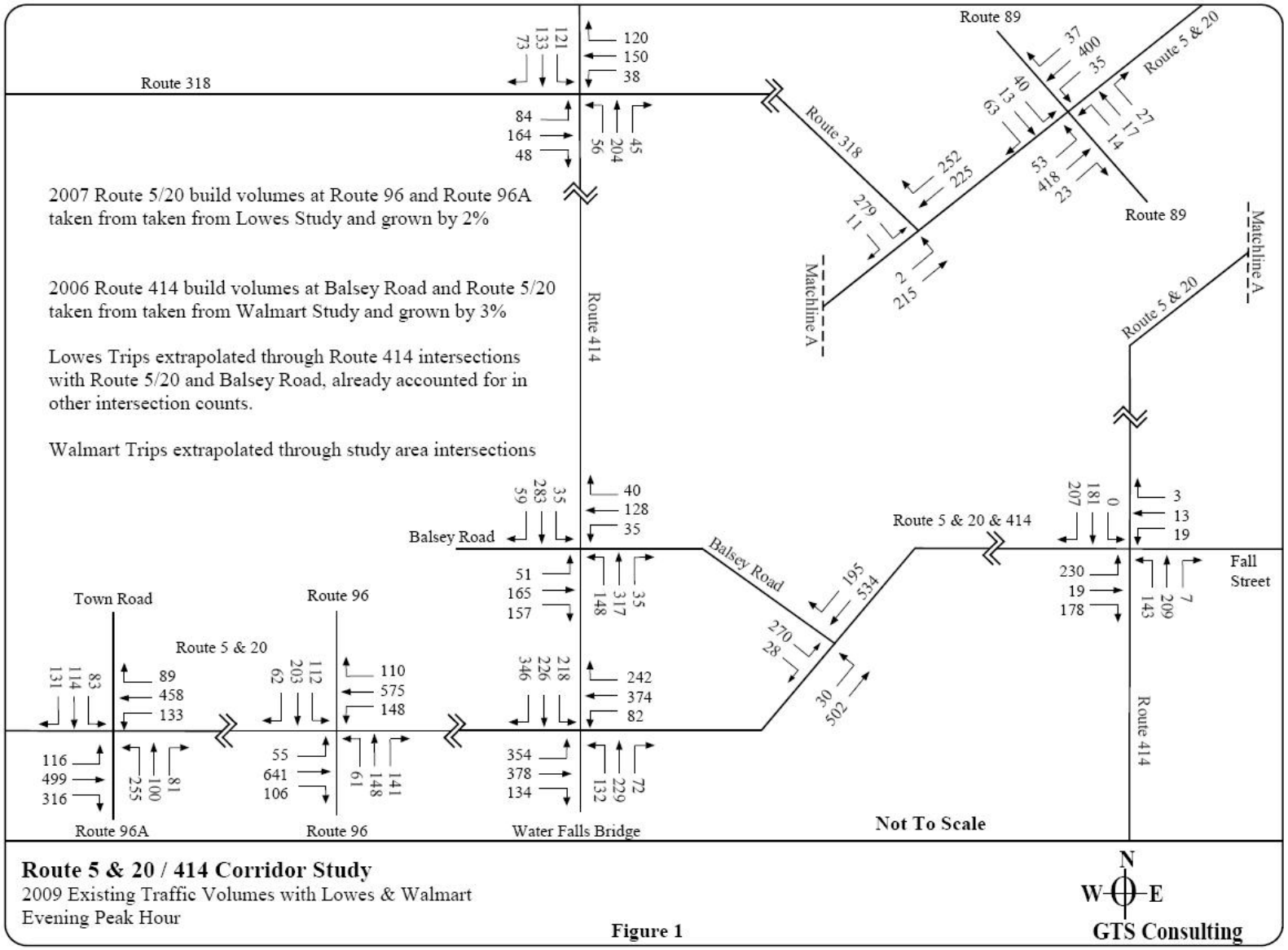
Long Term Annual Traffic Growth Calculations

2007 NYSDOT Traffic Data Report

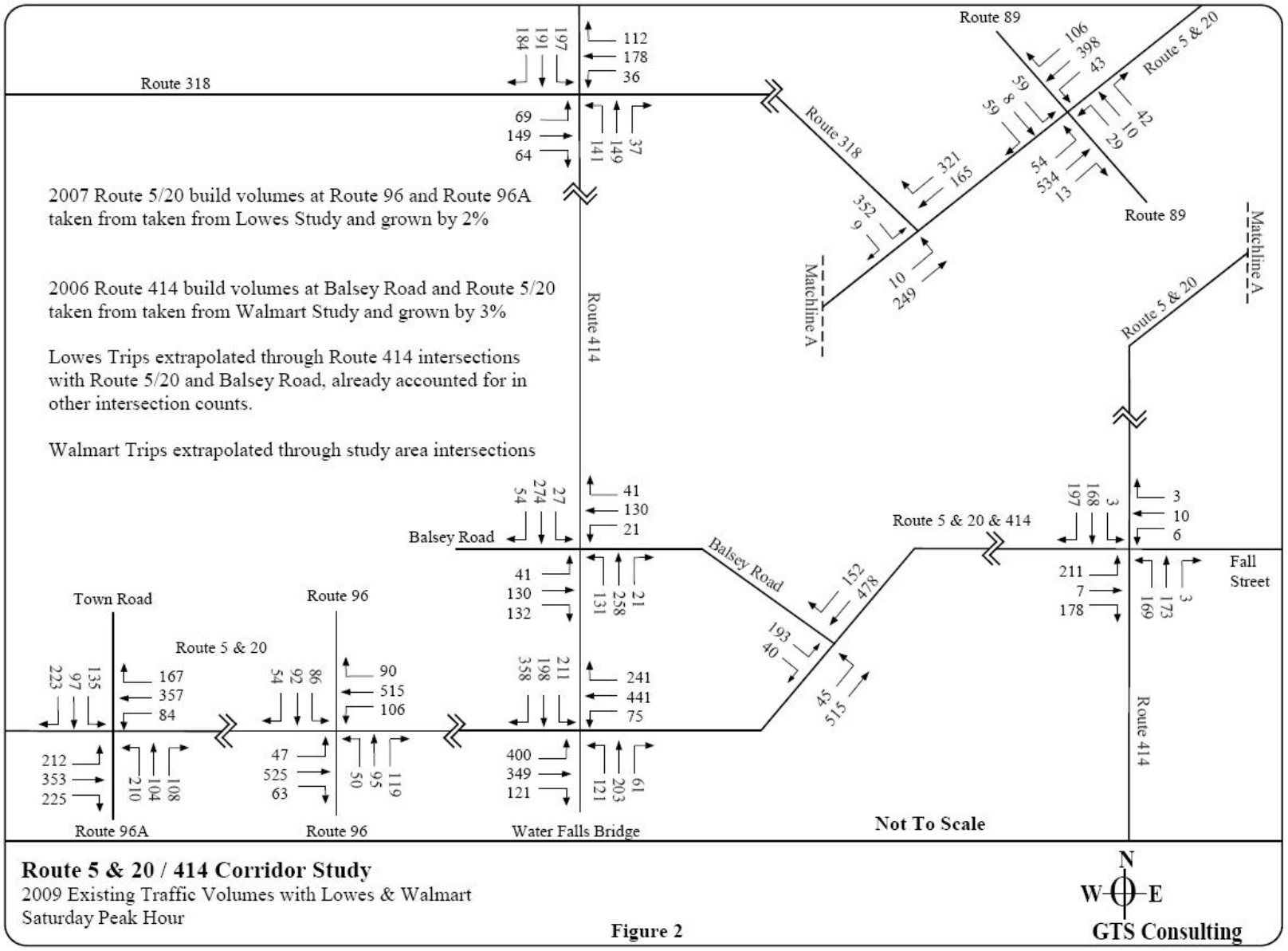
Road Segment	Most Current Count	Oldest Previous Count	Annual Traffic Growth
Route 5/20			
Route 96A to Route 96	2007 - 9,970 vehicles	1999 - 10,680 vehicles	-0.83%
Route 96 to Route 414	2006 - 14,470 vehicles	2002 - 14,430 vehicles	0.07%
Route 414 to Fall Street	2005 - 12,900 vehicles	1999 - 13,620 vehicles	-0.88%
Falls Street to Route 318	2006 - 8,540 vehicles	2001 - 6,650 vehicles	5.70%
Route 318 to Route 89	2005 - 10,900 vehicles	1999 - 10,980 vehicles	-0.12%
Route 318			
Route 414 to County Route 101	2007 - 6,660 vehicles	1995 - 6,830 vehicles	-0.21%
County Route 101 to Route 5/20	2005 - 6,360 vehicles	1999 - 6,210 vehicles	0.40%
Route 414			
Route 318 to Route 5/20 Overlap	2007 - 5,900 vehicles	2004 - 5,840 vehicles	0.34%
Route 5/20 Overlap Section	2005 - 12,900 vehicles	1999 - 13,620 vehicles	-0.88%

Other than one Route 5/20 section, traffic growth ranges between -1% per year to +0.5% per year.
High growth section not credible with negative growth on sections to east and west

Assume conservative annual growth in the area of 1% per year


2007 Route 5/20 build volumes at Route 96 and Route 96A taken from taken from Lowes Study and grown by 2%
2006 Route 414 build volumes at Balsey Road and Route 5/20 taken from taken from Walmart Study and grown by 3%
Lowes Trips extrapolated through Route 414 intersections with Route 5/20 and Balsey Road, already accounted for in other intersection counts.
Walmart Trips extrapolated through study area intersections
Route 318
Route 414
Route 89
Route 5 & 20
Matchline A
Balsey Road
Route 5 & 20 & 414
Fall Street
Town Road
Route 96
Route 96A
Water Falls Bridge
Not To Scale
N
W
E
Route 5 & 20 / 414 Corridor Study
2009 Existing Traffic Volumes with Lowes & Walmart
Evening Peak Hour
Figure 1
GTS Consulting

Current Conditions



Existing Planning Initiatives

This section serves as a summary of the local planning and development initiatives that have taken place within the corridor. Planning documents such as comprehensive plans, feasibility studies and market analysis reports are important for guiding future development and redevelopment opportunities, gathering community input and involvement and improving grant funding potential.

Town-Village of Seneca Falls Comprehensive Plan (November 2006)

In November of 2006, the Town and Village of Seneca Falls worked cooperatively on the creation of their comprehensive plan, which will direct development, local decision-making and policies in the next 10 to 15 years. The Plan highlighted six specific topics in both communities and developed strategies that impact the Route 5 & 20-414 study area. The topics and strategies are summarized below.

The economic security section of the plan addresses the fact that "…quality of life is the critical factor in attracting, retaining and growing businesses." Many of the strategies in this section aim to increase the economic development potential in the Village and Town by building upon local tourism, its location as a gateway to the Finger Lakes Region and its historical significance in the region. In addition, the creation of a main street program, redevelopment incentives and design standards would help to strengthen downtown Seneca Falls. Within the study corridor itself, the Plan highlights the commercial land uses along Routes 5 & 20 and the number of building vacancies that exist. These areas were recommended to become more "niche" businesses to be geared towards visitors and local residents. In addition, they should not compete against businesses along Route 414, but rather build upon local resources and complement them.

Increased inter-municipal cooperation and coordination of development review and land regulation was the main focus of the social well-being & community services section. The natural resources, open space & agriculture section recommended the development

of specific measures to protect scenic corridors and viewsheds, unique resources and agricultural lands as they add to the character and economic potential of the community.

Known as the birthplace of women's rights, the Village of Seneca Falls has a very special and unique historical significance in the region. In addition, the creation of the Seneca-Cayuga Canal played an equally important role in the Village's formation and boom. Due to these important cultural positions, development and design within the Village and Town should be done in accordance with specific guidelines or standards, according to the community character & historical preservation section.

The housing and neighborhoods section highlights the diversity of housing styles in the Town and Village and aims to keep the existing stock well-maintained and affordable for various incomes and lifestyles. In addition, any future development or redevelopment should be equally geared towards pedestrian and vehicular uses.

Canal Corridor Economic & Market Analysis (DRAFT January 2003)

Utilizing NYS Department of State funds, the Village of Waterloo, in association with the Village of Seneca Falls and corresponding Towns, completed an economic and market analysis of the canal corridor to determine potential opportunities for economic development. Utilizing demographic information from the 2000 Census, existing land uses and zoning regulations, and a survey of local businesses, the report developed an overview of the existing economic environment of the corridor. Although the general outlook regarding the local economic conditions was favorable, the report highlighted several opportunities for improvement. The opportunities included improvements to building conditions, appearance and overall site layout; incorporating more public amenities; more local government coordination in the Town of Waterloo and Town and Village of Seneca Falls; County tourism potential in the Town and Village of Waterloo; and an overall marketing campaign to the users of the Outlet Mall and the canal.

Strategies and recommendations for the corridor mirrored some of the general trends that are occurring nationally, such as more local trips, an increase in recreation and outdoor activities and increased tourism and recreational opportunities geared towards the senior population. In order to create a more unique atmosphere along the corridor, it was also recommended that committees be established to coordinate efforts among all of the communities in regards to Main Street revitalization, design guidelines, development standards and zoning changes.

Seneca-Cayuga Canal Trail Master Plan: Geneva to Seneca Falls (December 2002)

As shown in Map 1, the Seneca-Cayuga Canal Trail is currently under development. This trail was part of the greater Seneca-Cayuga Canal Trail Master Plan developed by the Cayuga-Seneca Canal Trail Association. The association is an affiliate of the Canalway Trails Association of New York and is made up of a mix of voluntary members that promote the development and maintenance of the trail in Seneca County.

The 19-mile long, 10 foot wide multi-use trail is anticipated to be completed in phases, with the most current phase being from Seneca Lake State Park in Geneva to the Village of Waterloo. This portion of the trail was completed (?) using a $420,000 grant awarded from the Federal TEA-21 program in October 2002. The Master Plan describes the planning and development of the entire trail system, with preliminary trail designs and recommendations included. For the majority of its proposed length, the trail is contained with the abandoned railroad right-of-way that is located south of the canal. Currently, this land is owned and maintained by New York State Electric & Gas (NYSEG).

In addition to trail design recommendations, the Plan also includes an inventory of the existing conditions of the railroad right-of-way: the cultural, historical and natural resources found in the vicinity; trail benefits; implementation strategies; cost estimates and funding; and management and maintenance strategies. At the time of the report, the trail route from the Village of Waterloo to the Village of Seneca Falls was included in the overall trail description, design and cost estimate, but no funding was sought for its construction. Although mentioned, a trail from Seneca Falls to Montezuma and on to the Erie Canal was not included in this Plan.

Existing and Future Development

There are several commercial development projects in the planning and construction phases, including the Wal-Mart Super Center, a hotel, a drug store and others. Real estate signs on vacant parcels, partially occupied commercial buildings and underutilized industrial complexes, indicate that the corridors are primed for additional development and redevelopment.

The pictures demonstrate the potential for future development within the study area.

Guiding Future Enhancement

Whether in the context of a single structure, a corridor, a development node, or an entire community, successful planning for Routes 5 & 20 and 414 should be based on a keen understanding and implementation of best practices in the areas of access management, community design and land development practices.

Managing growth and development within in the study area will require careful incorporation of the following guiding principles and sustainable development strategies.

Multi-Modal Access
Successful communities easily accommodate multiple modes of transportation and their related accommodations. Transportation facilities and networks must connect a wide variety of uses and provide safe and secure passage for motorists, bicyclists and pedestrians.

From street patterns and roadway design to pedestrian and bicycle accommodations, the recommendations in this plan will define reasonable and attractive spaces for movement to and through the study area. The recommendations of this plan will expand opportunities for other modes of travel, creating connected, walkable places where they make the most sense and ensuring safe vehicular movement throughout.

Sustainable Patterns of Development
The pattern of development, which is the footprint of a community, greatly impacts long-term success and viability. How and where land uses, transportation and community resources are located and connected significantly impacts how people live their lives and meet their daily needs. Sustainable development patterns maximize available land, minimize sprawl and utilize existing infrastructure. The best development patterns establish easily identifiable connections, maximize community resources, encourage inter-relationships among people and places and ensure that all elements of community are adequately addressed.

In this study area, higher intensity commercial and residential developments will be located where roadways and utilities can support its development. The Villages will continue to be social, civic and cultural centers in the region.

Respecting Human Scale
Buildings and public space must relate to one another in a way that respects the human scale. Building size in relationship to scale of

development is one consideration. But creating human-scaled development depends more on how structures are sited on a lot, their relationship to the public realm and the use of open space, landscaping and streetscaping. Ultimately, designs must allow places to perform their respective functions while inspiring safe movement and connectivity.

Balancing Needs

Effective community design achieves a balance between traditional neighborhood design and modern day needs. Multi-modal transportation, parking, big-box development, village scaled retail, residential development and industrial facilities all need to be accommodated as development and redevelopment occurs in the area. Applying access management and demonstrated development techniques will allow those needs to be addressed in a way that preserves the integrity of the community and creates inviting public and private spaces that are attractive and functional.

Site Planning

How a corridor or an area performs is often affected by the way that individual parcels are developed. Are buildings located close to the street edge or set back from the right-of-way? How do vehicles and pedestrians move into and through a site? Is the site well landscaped with pedestrian-scaled lighting and amenities? These are the types of questions that must be addressed effectively to ensure developed sites enhance the area and encourage additional investment.

The internal organization and development patterns of individual parcels directly and indirectly impact the vibrancy, function, attractiveness and performance of corridors and urban areas.

Mixed Use

The traditional urban model for development incorporates multiple uses into a single area or structure. Development in these areas is dictated by form, not use. The result is an active area where people can live, work and play within a walkable distance. Activity along the street (within limits) adds to the liveliness and interest of an area and contributes to an ambiance of vitality and safety.

Context Sensitive Design and Aesthetic Enhancement

Community character, whether already well established or just being newly defined, should be evident in the physical and programmatic enhancements

Mixed use is a time-tested model, as evidenced by central business districts of the Villages of Waterloo (pictured above) and Seneca Falls.

made over time. The study area's sense of place, which varies depending on the corridor and/or the location along the corridor, should be reflected in its design. From signage and wayfinding to building styles and materials, a recognizable theme should be developed to tie the area together.

Landscaping

Often overlooked or undervalued, the physical and natural landscape of communities greatly impacts the perceived quality, viability and sustainability. Landscaping includes the many types of foliage such as street trees, planters, vines, and ground cover. It includes the hardscapes that create the edges and focal points of our landscaped areas. Combined they create lush environments, shade our roadways and enhance our physical surroundings.

Attention to Detail

Addressing the details, in both the public and private realm, will enhance how the area looks, feels and flows. In community planning and design, details take many forms.

Urban furnishings—lighting, benches, trash receptacles, public art, fountains—help determine the level of engagement and interest in public and private spaces. They provide continuity and unity and help establish a sense of place.

The pedestrian scaled street lighting and historic clock in the Village of Seneca Falls demonstrate the impact that attention to detail can have a corridor's sense of place.

Transitions

The study area includes rural highways and densely developed village main streets. How the transitions between these roadway segments are addressed will affect both function and appearance. Visual cues, accomplished through roadway configuration, striping, streetscape amenities and landscaping, can help ease the transition between town and country.

Collaboration

Although the study area includes five distinct municipalities, there will be opportunities to collaboratively implement future improvements and policy changes. Where feasible, recommendations for shared activities have been identified to streamline future community enhancements.

Establishing the Framework

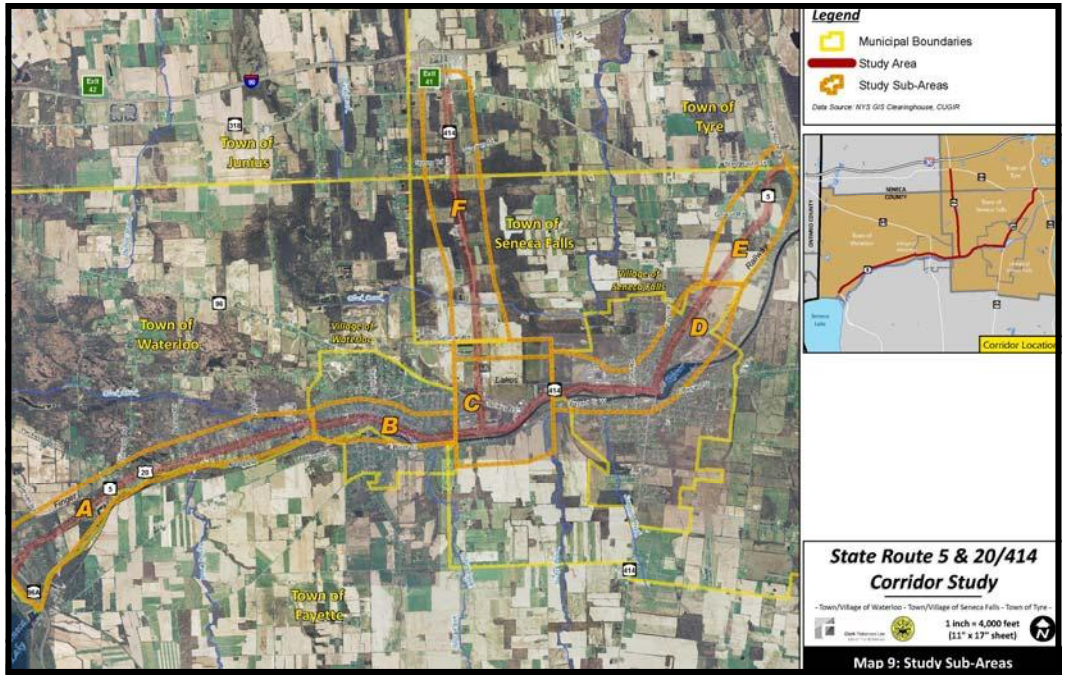
The 5 & 20/414 corridors span approximately 14 miles and cross through five municipalities. By virtue of the its size and municipal composition, the study area encompasses a range of land uses, transportation characteristics, development styles, and overall community context. The corridors offer unique character, various landscapes and changing context. The history and character of development along the corridors should be celebrated as future redevelopment and improvements occur.

Although the attention to heritage and context is important, there are also common threads that tie the entire study area together. This planning effort uncovered several opportunities to strengthen physical and social connections throughout the corridors. The similarity of issues and needs throughout the study area provides an opportunity for the municipalities to consider holistic enhancements that will benefit everyone.

Given the Consequently, the recommendations of the plan have been divided into two categories:

1. General Recommendations—This section outlines actions that should be considered throughout the study area in each of the affected municipalities. Some of the actions can and should be implemented by each of the affected municipalities. Others may required collective action.

2. Sub-Area Recommendations. In order to ensure recommendations be manageable and productive, the corridors were divided into six sub-areas (see map on this page). The boundaries correlate to municipal boundaries, with the exception of Sub-Area F. The specific characteristics, constraints and opportunities for each sub-area are described followed by specific recommendations. Although the characteristics are unique to each area, the recommendations are consistent with the guiding principles established in this Plan.



General Recommendations

Although the context, land use and anticipated needs shift considerably along Routes 5&20 and Route 414, the following general recommendations apply throughout the study area.

1. Utilize access management techniques to improve safety and operational performance along the corridors in the study area.

1.1 Reduce the number and severity of conflict points to provide safer passageway for motorists, pedestrians and bicyclists. Conflict points occur at intersections and driveways or any place where vehicles, pedestrians, bicyclists cross paths, diverge or cross one another. Lowering the number of conflict points along a corridor will reduce potential for accidents and traffic congestion that results from turning movements. Corridors with fewer conflict points are more comfortable places to drive, walk and ride because there is less turning activity and fewer movements that need to be anticipated.

1.2 Establish more stringent minimum spacing requirements between unsignalized driveways. Minimum spacing standards are often determined base on speed limit or trip generation. Each community can determine minimum spacing requirements can be determined based on speed limit or trip generation. Table 1 includes sample minimum spacing guidelines based on each method. The National Transportation Board's Access Management Manual outlined more stringent access management controls, recommending 470 feet as minimum distance between unsignalized drives on roads with speeds of 35 mph.

1.3 Target driveway reductions on the approach side of intersections to improve the flow and capacity and reduce accidents. Minimum driveway spacing requirements may be

Table 1—Minimum Spacing Guidelines

Posted Speed Limit	**Minimum Driveway Spacing**
35 mph or less	125 feet
36-44 mph	245 feet
45 mph or higher	440 feet
Peak Hour Trips (PHT)	**Minimum Driveway Spacing**
<=150	125 feet
151-300	250 feet
>300	400 feet

reduced for driveway systems that serve multiple properties or in cases where driveways are designated for right-in/right-out movements only.

1.4 Amend zoning and/or site plan regulations to establish more stringent minimum spacing requirements for offset drives and intersections. The minimum spacing should be increased (or established), where feasible, to maximize traffic flow.

1.5. Reduce or eliminate offset driveways located along the corridors by aligning new site access with existing access drives or streets. In cases where the desired/required access configuration can not be achieved in a proposed site plan, applicants should be required to provide traffic studies to sufficiently substantiate the need for the proposed configuration, demonstrate how proposed access points will impact the corridor's safety and operation, and outline present-day and future mitigation options.

1.6 Amend zoning and site plan regulations to establish stringent corner clearance requirements. Corner clearance is the distance between an intersection and the nearest driveway. Inadequate corner clearances can affect safety, operations and capacity. The minimum distance should factor in sight distance, driver response times and stacking space at intersections. Established minimum is recommended to be no less than 110 feet.

1.7 Encourage or require installation of right-in/right-out only turn lanes at unsignalized entrances to limit turning movements and improve traffic flow.

1.8 Require a reduction in curb cuts, where feasible and applicable, when new development and redevelopment of existing parcels is proposed. Require driveway consolidation with redevelopment of an existing parcel to achieve the desired driveway spacing standards. Require shared parking and cross access for new or redeveloped parcels. This will reduce the number of access drives on the corridors and decrease the number of vehicles entering and exiting the corridor to access adjacent properties.

2. Identify and improve physical design of pedestrian crossing locations throughout the corridor.

2.1 All crosswalks should be clearly identified with pavement markers and pedestrian crossing signs to define pedestrian crossings. Crosswalk treatments should be well maintained over time to ensure function and appearance.

2.2 Consider use of alternative materials to enhance crosswalks within the corridor. Alternative materials should be carefully selected to ensure durability and ease of maintenance over time. Pavers, brick or similar material may be an option. However, without proper installation and maintenance, the pavers can dislodge and become hazardous. Furthermore,

uneven surfaces may cause difficulty for pedestrians and bicyclists, especially for individuals with disabilities or who are in wheelchairs. Stamped concrete or stamped asphalt are other options that enhance the appearance of the corridor and make pedestrian crossing areas more visible to motorists.

2.3 Ensure signs, markings for crosswalks and the stop bars placed in advance of the crosswalks are in compliance with the Manual of Uniform Traffic Control Devices (MUTCD).

2.4 Install mid-block crosswalks in locations that can accommodate them safely. In the past they were discouraged because they were thought to be unsafe. However, when properly designed and located in lower traffic volume areas, they can be safer than signalized intersections. This is especially true because there are fewer conflict points from vehicles since there are no left or right turning vehicles.

2.5 Identify potential locations for tabled intersections or raised crosswalks. Raised crosswalks have similar safety advantages as tabled intersections. Similar to tabled intersections, raised crosswalks should be used sparingly.

2.6 Install pedestrian crossing signals at all signalized intersections. Consider crossing signals that feature audible cues as well as countdown to improve safety.

Prominently placed and brightly colored roadway signs alert motorists to the presence of pedestrians. The signage picture above may be more appropriate in the Towns of Tyre, Waterloo and Seneca Falls where there are fewer crossing locations that are located further apart.

2.7 Consider the installation of lighted cross-walks at high traffic intersections to improve driver visibility of marked crosswalks. The in-pavement lighting can be installed at signalized and unsignalized intersections and may be triggered by pedestrian motion on the pavement.

3. Expand multi-modal access and safety.

3.1 Work with the transit authority to enhance bus stop amenities (including shelters and benches) to encourage the use of the transit system.

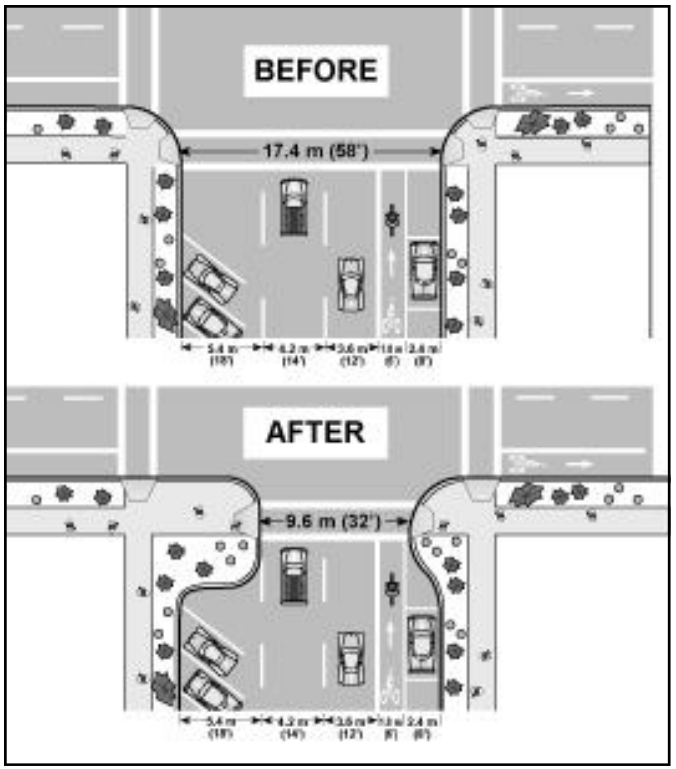
3.2 Establish preferred bike routes to and on the corridors and identify them with adequate signage.

3.3 Consider installing decorative "share the road" signage alerting motorists to the presence of bicycle access.

3.4 Where feasible, install sidewalks at all transit stop locations to ensure safe linkages along the corridors and to nearby destinations (e.g. residential and commercial development). Sidewalks should be setback as far from the travel lane as possible with a buffer between the edge of the lane and the walkway. The further the sidewalk is setback from the roadway the easier it will be for the driveway aprons to transition from the roadway to the driveways

3.5 To shorten crossing distances, install bulb-outs (curb extensions) in sections that have ample road width or areas where on-street parking is accommodated.

3.6 Enhance bicycles ability to share the road with other vehicles through the creation of a dedicated bike lane. An exclusive bike lane is typically 5-feet wide, while a shared lane where the bicyclist travels next to the vehicles in the roadway is 12-feet wide.



The graphic illustrates the crossing distance reduction that can be achieved through the installation of bulb-outs.

3.7 Review, and modify as needed, the location of transit stops along the corridors, particularly on Route 5&20. Ideally transit stops should be located after signalized intersections. Often, bus stops are located at midblock locations to minimize interference with signal optimization. Although this may benefit cars and trucks using the roadway, it can be detrimental to transit riders. Transit riders who disembark midblock, may be tempted to cross midblock without an appropriate crossing.

3.8 Upgrade existing sidewalk to ensure they meet Americans with Disabilities Act regulations regarding width and corner curbing to ensure safe passage of people with limited mobility or those in wheelchairs.

3.9 Each municipality should develop a sidewalk plan in order to prioritize areas for future installation and/or rehabilitation, as well as establish a regular maintenance schedule. Where sidewalks border adjacent Towns or Villages, planning efforts should be coordinated whenever feasible.

4. Encourage consistent development themes and transitions among municipalities along both corridors.

4.1 Install banners, interpretive and wayfinding signs and other decorative elements that share a consistent design and color scheme. The wording and graphics would be unique to each community, but the uniform look would established a unified sense of place.

4.2 Work with local businesses, land owners, local leaders and other stakeholders to promote Route 5 & 20 as a heritage corridor in publications, advertising and other community/visitor outreach.

4.3 Consider the establishment of an overlay zone on each corridor that would outline requirements for setbacks, building materials, site design elements.

5. Encourage sustainable land use and development patterns

5.1 Promote nodal development at key locations along both corridors to create accessible destinations. Concentrating development, especially higher trip generating uses, provides opportunities for shared and cross access site development, shared parking and minimal curb cuts along the length of the corridor.

5.2 Encourage development standards and materials to limit environmental impacts and degradation of vital resources.

5.3 Locate development where existing infrastructure, such as public water, sewer and roadways, can more easily accommodate expansion.

6. Improve streetscape design and appearance

6.1 Establish, maintain and expand the corridors' inventory of street trees. This simple and relatively inexpensive streetscaping tool will have a tremendous impact on the visual quality of the corridor. Where rights-of-way permit, trees should be planted in the tree lawn area between the sidewalk and curb. In places where tree lawns don't exist, trees can be planted along the parcel edge to create a defined edge.

In less developed areas along the corridors, such as the 5&20 section pictured above, streetscaping enhancements may be limited to curbing and plantings along the parcel edge to enhance the definition of the edges.

6.2 Improve existing and enhance future bus stops along the corridor and provide well-designed shelters wherever feasible.

6.3 Build upon the area's heritage through the installation of public art and other decorative streetscape elements that celebrate the area's history and culture.

6.4 Encourage or establish standards for minimum landscaping for commercial properties, especially where parcels abut the right-of-way.

6.5 During roadway reconstruction projects, implement streetscape enhancements, including the provision or replacement of pedestrian scaled street lighting, widened sidewalks, decorative crosswalks and other elements that will create an enhanced sense of place.

7. Promote continued inter-municipal collaboration to achieve shared transportation and land use goals.

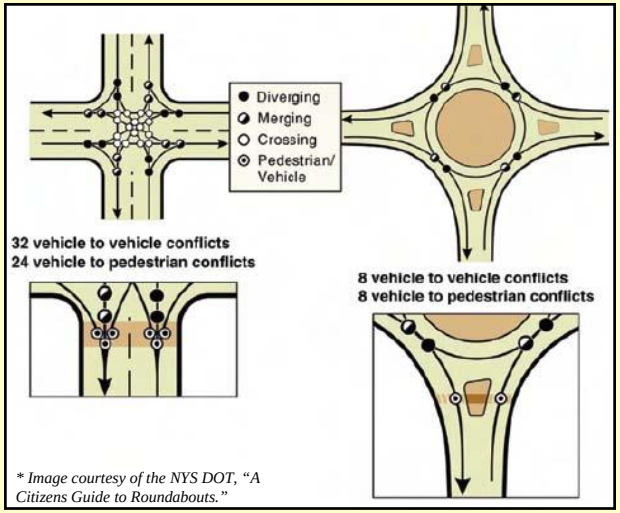
7.1 Create access management regulations that each community can adopt (either as a local law or as part of their zoning code) to encourage consistently safe and efficient roadway design throughout the study area.

7.2 Encourage information sharing among the study area communities through e-mail notifications, the creation of joint committees or other means to ensure that all stakeholders are aware of pending projects, roadway improvements and other actions that will impact the corridors.

7.3 In the long term, consider consolidating site plan review and/or code enforcement functions among adjacent communities to streamline the development review process and ensure well coordinated development and redevelopment initiatives.

Design Lesson: Modern Roundabouts

Roundabouts are unsignalized, circular traffic intersections that depend on vehicles slowing down and yielding to thru traffic rather than traffic signals or stop signs. These types of intersections have been successfully utilized in European countries for decades for traffic calming and improving vehicular safety (i.e. decreasing accidents). This is primarily accomplished by decreasing the number of conflict points that typically occur in a standard four-way intersection. In addition, a modern roundabout offers the opportunity to add aesthetic amenities such as a central landscaped circle, enhanced pedestrian crosswalks and an overall improved appearance. Although they have been slow to be constructed in the United States, today over 1,500 exist, with many more being designed and installed each year.



** Image courtesy of the NYS DOT, "A Citizens Guide to Roundabouts."*

Hesitation from the community reading roundabouts typically stems from unfamiliarity with them and their perception as traffic circles. Roundabouts should not be confused with traffic circles or rotaries, which utilize higher speeds, larger expanses of land, and traffic signals (stop signs and/or lights). Unfamiliarity with navigating roundabouts has been remedied through NYS DOT-sponsored educational material as well as actual use of the intersection by users. Installation of a roundabout depends on various factors, such as available land, traffic volumes, the number of accidents, and road geometry. An in-depth study and analysis is done in conjunction with design work to determine if an intersection can accommodate such an improvement.

Roundabout examples

(From left to right): Examples of modern roundabouts include a more urban style in the Village of Hamburg (Erie County) and a simple rural design in the Town of Mendon (Monroe County). An aerial view of a two-lane roundabout shows the lane configurations.



Design Lesson: Site Planning Best Practices

In the Routes 5 & 20/414 corridor, commercial development of any property begins with a review of a site plan by the Town or Village. Although developers of property come to the Town or Village with pre-drawn plans ready for approval, the municipality has a responsibility to review the plan for the safety of the community and to ensure it's conformance with Town or Village-wide development goals. In addition, it is also an opportunity for the municipality to encourage good site design practices to ensure an aesthetically-pleasing, long lasting structure. Some of the best practices include:

A. Orienting the building towards the street, making the entrance accessible to all users, and placing the building close to the setback line.

B. Placing the majority of parking to the rear or sides of a structure; the building should be the prominent feature to the street.

C. The building façade should be the prominent feature and should be designed to blend in with the surrounding area.

D. Landscaping should be used to enhance the curb appeal of the site, provide natural stormwater management and snow storage and buffer adjacent uses, especially residential.

E. Cross access and shared parking with neighboring uses/businesses should be encouraged wherever possible to minimizing the size of the parking area and excessive curb cuts.

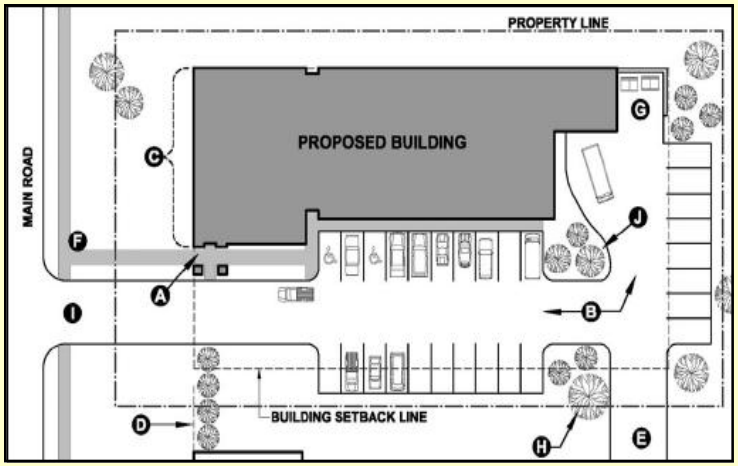
F. Incorporating sidewalks that connect to the main entrance as well as connecting to existing sidewalk systems.

G. Dumpsters, loading areas, and other service needs that are critical to businesses should not be visible from the street, but remain easily accessible to the business.

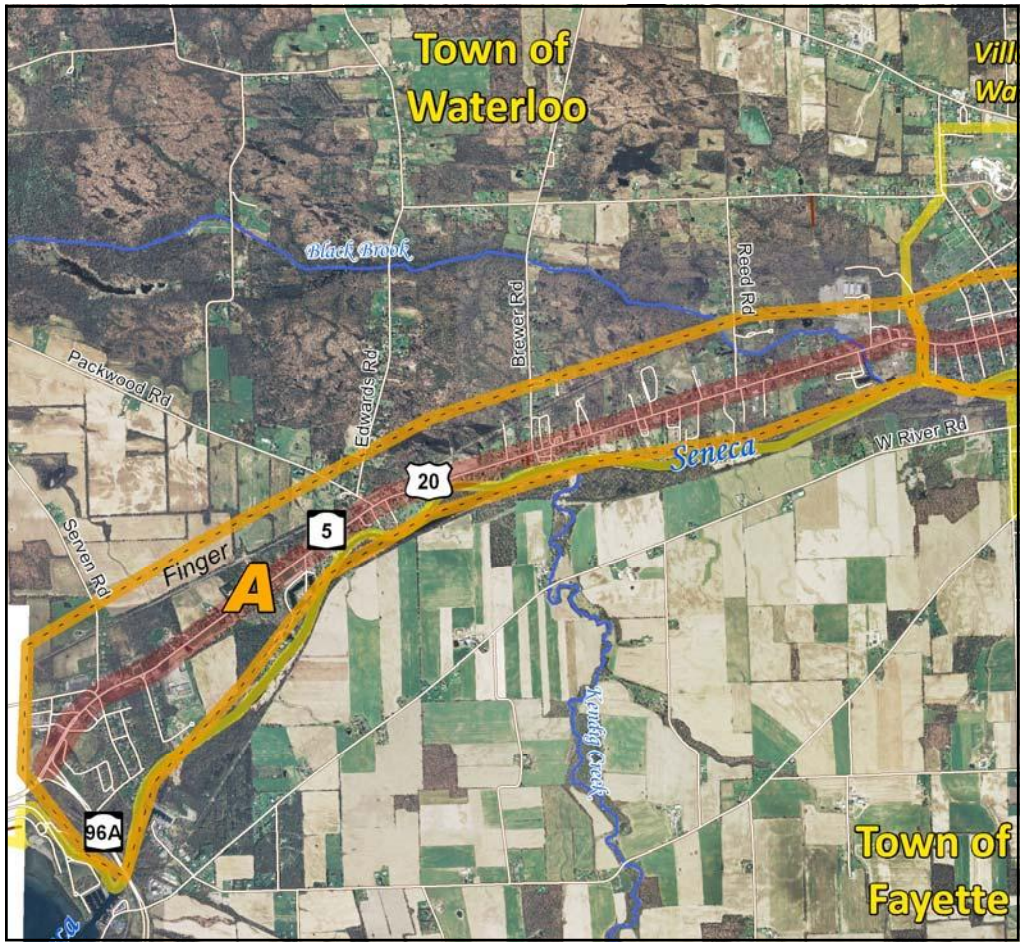
H. A mix of vegetation, including existing trees and tress that provide shade canopy at maturity, should be incorporated.

I. A single access drive should be used for each property with minimal curb radii.

J. Parking areas should be easy to navigate and include ample green space for vegetation.



A good example of a commercial building that incorporates most, if not all, of the good site planning and design practices.


Town of
Waterloo
Black Brook
Packwood Rd
Edwards Rd
Brewer Rd
Reed Rd
Seneca
W River Rd
20
5
Seven Rd
Finger
A
96A
Keuka Creek
Town of
Fayette


AVAILABLE
Commercial Site
1.8 Acres
LOWE'S

SUB-AREA A
(Route 96A to Waterloo Village Line)

Characteristics

The hamlet of East Geneva is located adjacent to the intersection of Routes 96A and 5 & 20, and consists of a mix of small commercial and residential properties. Besides a Lowe's home center immediately adjacent to the intersection, there has been no apparent new construction in this small area. Numerous commercial properties and structures in the hamlet are underutilized or are visibly vacant. Most of the residential homes in East Geneva, as well as the remainder of this sub-area consist of either older, single-family homes or mobile homes. Excluding East Geneva, the residential properties consist of frontage or flag lots lining 5 & 20 with large expanses of vacant or agricultural lands to the rear. HEP Sales (home center) and Hidden Harbor Marina are some of the larger commercial uses outside of the hamlet. In general, properties along both sides of the corridor consist of deep lots that are bounded by the Ontario and Finger Lakes Railway to the north or the Seneca Canal to the south.

This section of the corridor consists of a two-lane road with wide shoulders approximately 10 feet in width. No dedicated pedestrian facilities, such as sidewalks or multi-use paths, are evident. However, a few pedestrians were observed utilizing the shoulders for travel. Any landscaping or streetscaping is limited to personal or private properties and many of the trees were larger in caliper (trunk width) and upwards of 30 feet in height. Throughout the sub-area, the speed limit is 45 mph; just west of the village line, the speed drops to 40 mph.

Business signage consists of free-standing structures geared towards automobiles, and range in design, maintenance, and lighting. Several larger commercial land uses, including Geneva Home Sales, a LeBrun automotive dealership, and Mac's Restaurant/Drive-In, as well as multiple mobile home parks are located approaching the next sub-area (Waterloo village line).

Recommendations

Land Use and Development

- Enforce the importance of East Geneva as a hamlet. With the recent construction of the Lowe's home center, encourage additional development and redevelopment in this area.

- Revise and update the Town's Comprehensive Plan to include the hamlet as an area for targeted redevelopment. Strong emphasis should be placed on the Lowe's construction and building on this as well as the prime location of the hamlet just outside of the City of Geneva, near the Routes 5 & 20 and 96A intersection, and near Seneca Lake State Park. The hamlet should include a mix of retail and commercial uses.

- Several large and vacant parcels are located around the intersection with Border City Road/Seneca Boulevard. Parcels in these general locations are high visibility sites that, if developed, should be built up to the setback line at a minimum. In addition, a combination of landscaping and buildings with design features that front the primary road add to the visual appeal of the area and help to draw positive attention.

- The current site design with front-loaded parking lots should be avoided. Limited convenience parking can be located at the front with the remainder at the sides or rear. Interaction with the building and business should be the primary goal, not expansive parking.

- Zoning modifications should include shared access for multiple parcels fronting Routes 5 & 20. Given the 45 mph speed limit, common spacing for driveways should be approximately 440 feet.

- Establish new zoning designations for the hamlets of East Geneva, Packwood Corners and Parr Harbor to encourage mixed use development in these areas rather than as strip development along the corridor. Packwood Corners, although only encompassing one intersection, should generally follow the same land use design recommendations as East Geneva.

- With few access points, visual or physical, and large expanses of vacant and commercial land along the canal, encourage the development of public access and additional recreational opportunities in and around Parr Harbor.

- Parr Harbor should be established as a transitional hamlet with development that is sensitive to the scale and character of the Village. Single and multi-family residential, local retail, restaurant (non-drive-thru), professional offices, and light manufacturing are recommended uses.

- Commercial development, while spread out along the corridor, should be designed to reflect the rural nature of the area. Individual sites should include vegetation, especially trees, along the front of the lots; free standing signage at an appropriate scale in comparison to the surrounding area; limited parking space at the front; and buildings should include subtle architectural features that reflect the rural vernacular of the area.

- Where new development is proposed, large caliper (trunk size) trees and other notable natural features should be preserved and incorporated into the site plan.

- Mobile homes, while an important component for those seeking affordable housing, should be limited to mobile home communities. However, manufactured homes that incorporate features similar to "stick-built" single-family homes should be permitted to be built on individual lots. Features would include roof overhangs, construction on a permanent foundation, pitched roof, high-quality exterior siding, and may incorporate features such as dormers or gables.

- Mobile home parks should only be allowed to expand within their existing boundaries; no new parks should be permitted.

This picture is one example how properties in Sub-Area A need better defined entry points and enhanced onsite landscaping.

- Residential development along the corridor should maintain larger lot widths, between 150 and 200 feet, in order to maintain the rural character of the area. Smaller lot widths increase density, number of driveway access points, and take away from the rural nature of the corridor. Historically, this route included farms along its length with smaller commercial areas and denser development in the hamlets.

- Although there are only a handful of large parcels that are capable of additional subdivision and development, frontage lots should be encouraged with wider lots. Smaller lots may be allowed if at least 30 percent of the parent lot is maintained for open space and an access road is provided.

Transportation

- The existing shoulder width could easily accommodate a dedicated bike lane, which would be identified by striping and painted pavement symbols. In the absence of a dedicated bike lane through this area, painted bicycle symbols could be installed in the existing shoulder to alert motorists to the likely presence of other modes of travel.

- Consolidate driveways located along the corridor wherever feasible. Special attention should be given to the parcels between Border City Road and East Avenue.

- Ensure access points (driveways) to commercial and industrial properties are clearly defined to establish identifiable travel paths for motorists entering and exiting Route 5&20. This enhancement will also make pedestrian movement along the corridor safer

Streetscape and Site Design

- Given the rural character of this sub-area, streetscaping enhancements would mostly likely focus on the installation of decorative flags and signage and edge of parcel landscaping and tree plantings.

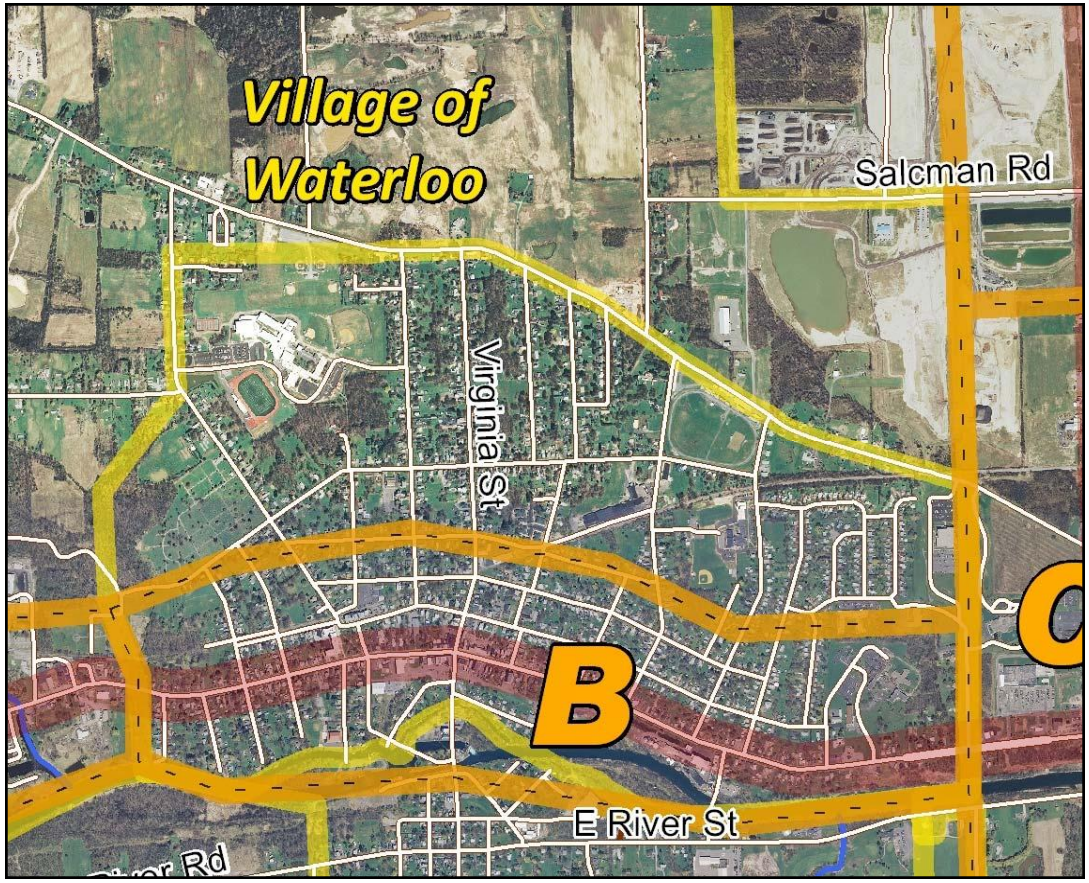
- Public art may be appropriate at the town gateways to reflect the town's unique heritage and character.

- Long-term improvements may include: installation of decorative lighting; curbs to define the roadway edge; and construction of sidewalks or multi-use pathways, especially in the hamlet areas to enhance pedestrian connections.

Trees planted on private property, located close to the right-of-way create attractive views along the corridor and buffer adjacent land uses from roadway traffic and noise.

Land Use & Development Best Practices Concept

1. Buffer between commercial and residential uses.
2. Opportunities for cross access between adjacent properties.
3. Alignment of access on adjacent properties.
4. Internal site pedestrian connections.
5. Street trees and landscaping help to reduce speeds and create an identity for the area.
6. Maintain existing areas of woodlands or natural areas.
7. Curbing and striping to improve access and safety at the fire station entrance on Seneca Blvd.
8. Redevelopment potential for vacant properties - new structures maintain a consistent setback.


Village of
Waterloo
Salcman Rd
Virginia St
B
C
E River St

SUB-AREA B

(Waterloo western village line to Waterloo/Seneca Falls town line)

Characteristics

Located entirely within the Village of Waterloo, this sub-area is developed in a typical village fashion with a central business district surrounded by a grid of residential streets. The central business district is located at the intersection of Virginia Street and Routes 5 & 20 and extends east and west approximately one block in each direction. The buildings in this area consist of three to four story brick structures with non-residential uses on the first floors and office/non-retail/residential uses on subsequent floors. Buildings appear to be fairly well maintained and vacancy rate appears to be low; evident by few for-sale signs or blank storefronts. Vacancies on upper floors, however, are more questionable. All of the buildings are built up to the lot line with sidewalks built the full width (building to the edge of the road). A range of amenities are found within the public right-of-way, including decorative lighting, trash receptacles, few benches, street trees and planters.

Approaching the Village, a decorative municipal sign is found on the south side of Routes 5 & 20 and is accompanied by landscaping. Throughout the Village, the speed limit remains at 30 mph and four lanes of traffic are separated by striping. On-street parking is also located throughout the Village and, with the exception of the central business district, consists of flush curbing along the travel lane and raised curbing at the edge of the roadway. Within the business district, on-street parking is striped with dedicated stalls. Crosswalks are located within the district as well.

A few scattered commercial properties are found outside of the business district; however the remainder of the corridor consists of smaller residential lots and buildings. Several municipal parks are found on the northern portion of the corridor, as well as the Main Street Elementary School. Single-family homes appear to range in age with the majority built around the early to mid-1900s. In typical village fashion, streets are arranged in a grid-like pattern running parallel or perpendicular to Main Street/Routes 5 & 20. Outside of the business district, sidewalks are typically three to four feet in width and line both sides of the street and, in most areas, are in less-than ideal condition. Residential areas on the northern portion of the business district do include sidewalks, but many of the outlying streets do not. In addition, pavement conditions on many of these outlying streets are in poor shape and have limited drainage facilities.

Larger parcels in the sub-area are mainly community service or industrial-related, with the largest industrial use, Evans Chemetics, located on the south side across from Inslee Street. The other large land use in this section consists of the Silver Creek Golf Course, which is located in the southeast corner of the Village on the south side of the Seneca Canal.

Recommendations

Land Use and Development

- With the majority of the Village built out and residential uses the predominant land use along the corridor, development options are limited. Maintenance of existing structures should be the key strategy for existing structures.
- Promote infill development and redevelopment in the Village's Comprehensive Plan and Zoning documents.
- Provide incentives for the reuse of properties and adherence to design guidelines such as expedited site plan review timeframes and fees, density bonuses, or public infrastructure improvements or upgrades.
- As the area's primary waterfront access point, Oak Island has had several upgrades in the past. The Village should continue to make improvements to this area as well as the Youth Center to the north to include additional landscaping and features to make it more inviting to visitors and residents.
- Many of the residential homes and businesses lining Routes 5 & 20 are built closer to the right-of-way in a typical Village fashion. Occasionally, newer developments have been built out of context with adjacent uses when compared to the surrounding building stock. Where redevelopment is possible, structures should establish setbacks consistent with the village's traditional development pattern. This will minimize the "broken tooth" appearance as redevelopment occurs. If redevelopment is not possible, onsite landscaping and other hardscape features should be encouraged to give the appearance of a closer set back and a better fit with surrounding uses.
- Within the Village center, buildings are narrow and have different, yet aesthetically related façade designs. New development and redevelopment should mirror this appearance. Facades should feature appropriate levels of transparency and, large, blank or monotone walls should be prohibited.
- The density of the Village along Main Street should remain consistent throughout. Although Geneva General Hospital encompasses a large amount of land on the eastern portion of this sub-area, frontage properties should still reflect the development style of the Village. Additional development, following the recommendations above, should be pursued here.
- Where feasible, municipally-owned facilities that are located adjacent to the Canal should be relocated to the Village center or other municipal properties to increase public access opportunities.

Transportation

- The Village of Waterloo should continue to work cooperatively with NYSDOT to re-stripe Route 5&20 from its western border to Oak Street. The project, which is slated for 2010, would change the corridor's configuration, reducing a four lane section to a three-lane section with one travel lane in each direction and a center two-way turn lane.

- The re-striping will allow the Village, in cooperation with NYSDOT, to determine whether this stretch of the corridor could support a future "road diet." A road diet reduces lanes on roadways where excess capacity exists and there is a desire to change the context or speed of travel. Based on existing volumes, it is likely that this section should be made permanently via a future reconstruction project.

- Any re-striping or future reconstruction projects should consider the inclusion of a dedicated bike lane on one or both sides of the roadway. If dedicated bike lanes are not feasible, the travel lane widths should be at least 12 feet to allow safe road sharing.

- Future roadway reconstruction projects should also consider the removal of the secondary curb that separates on-street parking from travel lanes. The embedded curbing presents unnecessary obstacles for pedestrians and limits ADA accessibility at crosswalk locations.

- Enhance crosswalks by utilizing high-visible decorative materials and signage.

- Inventory and upgrade corners along the corridor that are not ADA compliant to improve access for all users.

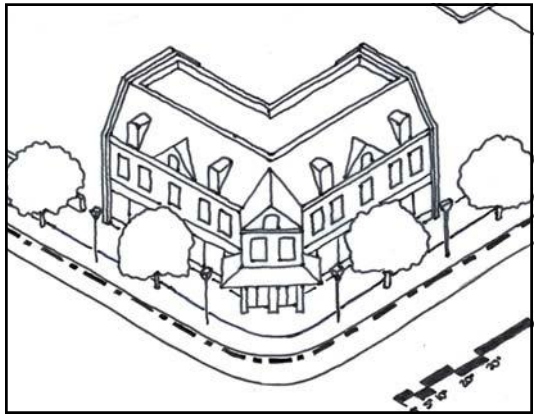
- Enhance pedestrian connections and ADA accessibility to the parking area located behind the commercial buildings on the southwest corner of Main Street (adjacent to Route 96). Opportunities exist to extend the sidewalks along the rear edge of the parking lot to link to existing sidewalks along Route 96/ South Virginia Street.

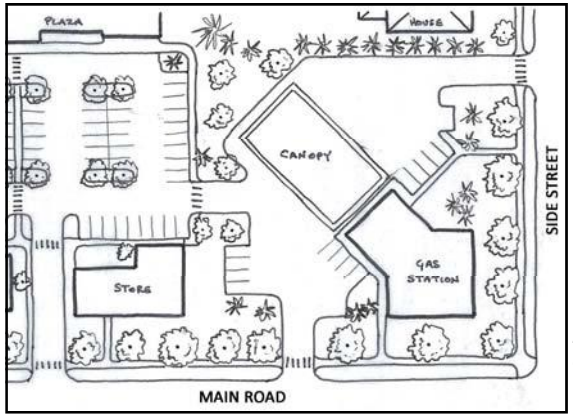
The embedded secondary curbing that separates on-street parking from travel lanes raises potential problems for pedestrian access, street maintenance and snow removal. Additionally, the unattractive treatment degrades the roadway's physical appearance.

Streetscape and Site Design

- Revise sign regulations to limit the height and scale of signs to ensure they are proportional to the site and building they are associated with.
- Revise sign regulations to control the materials and lighting used on free standing and building mounted signs for non-residential buildings and properties. Materials should be consistent with, and help to promote, the Village's heritage and character. Back lit, neon, digital and LED lighting and lettering should be restricted and/or prohibited.
- Install street trees on all available tree lawns. In the Central Business District, install additional street trees or replace dying/failing trees. Work with area businesses, merchants associations and volunteer groups to solicit assistance in maintaining public plantings and trees along the corridor.
- Outside the central business district area, where zero setbacks may not be feasible or desirable, set the smallest setback possible to maintain visual and physical connection between buildings and the street. This will ensure pedestrian access to properties is safe and convenient.
- Locate all parking to the side or rear of buildings that front on Routes 5&20.
- Buildings on corner lots should be oriented to create a defined edge at the corner.

Top: The sign is significantly taller than the building. In a village setting, sign heights should be considerably lower. Bottom:The LED sign located in front of the school does not fit the historic context of the school building, adjacent park or the historic marker.





The graphic demonstrates a good example of corner setbacks that adequately address the street and create an attractive front

Recommendations

Land Use & Development Best Practices Concept

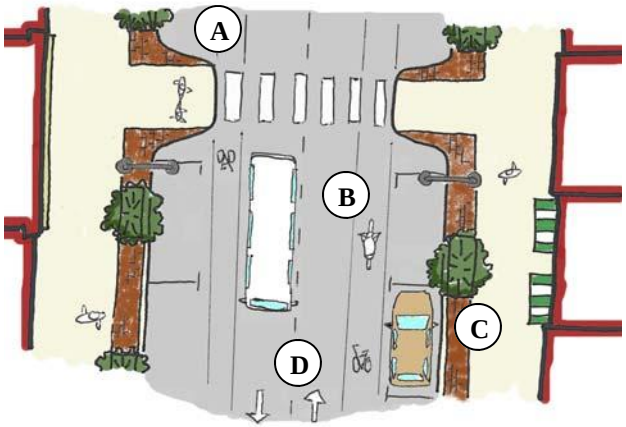
1. New infill development to match existing.
2. Improved pedestrian system to rear lots and parking areas.
3. Convenience stores with gas pumps should be located close to the street with the pumps at the rear.
4. Off-street parking located behind new buildings.
5. Realigned parking layout with increased greenspace and dedicated parking areas.

This concept plan illustrates best practices for site design and land use. It should not be interpreted as an actual plan for development.

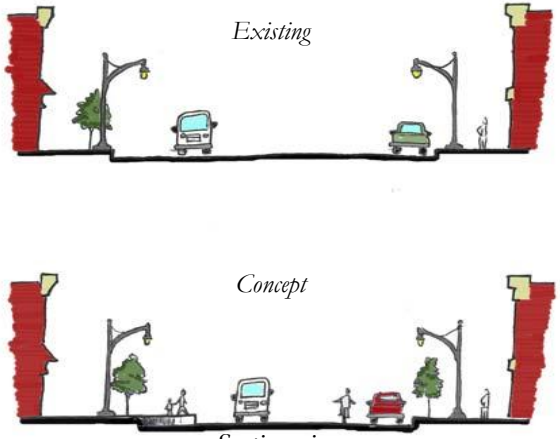
Route 5/20 Lane Reduction/ Restriping Concept

A. Curb bumpouts for pedestrian awareness
B. Dedicated bike lanes
C. Brick or pavers with trees and grates
D. Two travel lanes & parallel parking

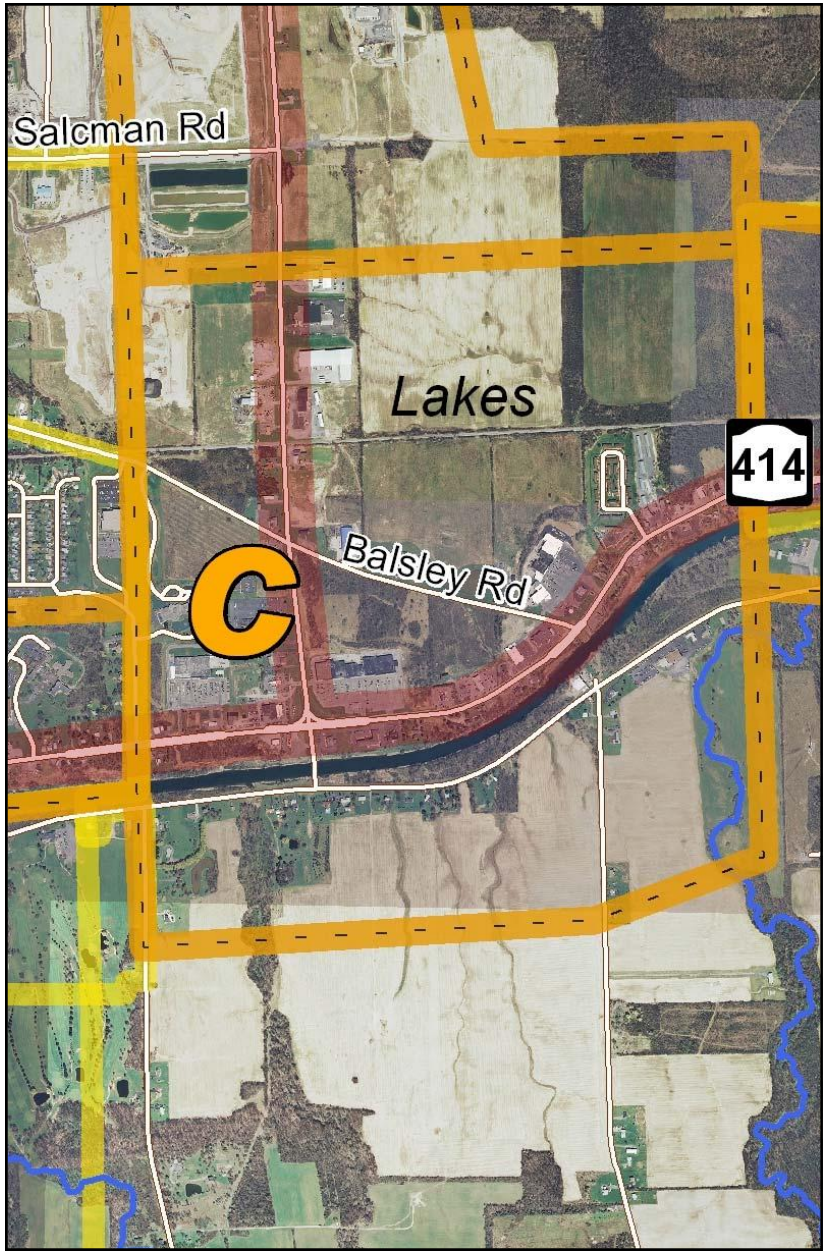
Waterloo Lane Reduction/Restriping Concept



Plan view



Section view


Salcman Rd
Lakes
414
Balsley Rd
C


WATER FALLS
BRIDGE
20 5
414

SUB-AREA C

Waterloo/Seneca Falls town line to Seneca Falls western village line (also includes 414/5 & 20 intersection to 414/Salcman Road intersection)

Characteristics

The Village boundary ends around Thurber Drive, at which point the corridor becomes a five-lane road with a center two-way turn lane and the speed limit increases to 40 mph. Prior to the Village line, more specifically in the vicinity of Chapel Street, on-street parking ceases and is replaced by a five to six-foot wide shoulder. This shoulder eventually tapers down to a one to two-foot wide section in sub-area C. A small, DOT-style sign indicates entrance into the Town of Seneca Falls, at which point the parcels become much larger in size and consist of commercial uses that are setback much further from the roadway. Due to the limited depth and sloping conditions of the ground, there is limited development on the southern portion of this section of the corridor, especially southwest of the Route 414 and 5 & 20 intersection. A large automotive dealership, Pizza Hut and vacant sub-lot, Five Star Bank and strip plaza make up the primary uses around the intersection. Overall, site aesthetics and landscaping are limited to the individual properties and consist of sparse areas of vegetation.

In addition to four travel lanes and a center turning lane, westbound traffic on Routes 5 & 20 also includes a dedicated northbound turning lane for Route 414. These turning lanes on the northern portion of Route 414 are separated from the through travel lanes by triangular, landscaped medians that include sidewalks. Sidewalks are present on the north side of Routes 5 & 20, but stop abruptly on the west side and along Route 414. The sidewalk and crosswalks that guide pedestrians across the intersection include multiple jogs in order to navigate the traffic medians and turn lanes. Routes 5 & 20 continue eastward as a five lane road with a center turning lane and sidewalks on the northern portion.

Northbound on Route 414/Mound Road, the roadway becomes a two-lane road with wide shoulders and remains at 45 mph. Uses in this portion of the sub-area consist of a mixture of commercial and light industrial businesses, each with one to two entrances onto Route 414. Each of these businesses is setback quite far from the roadway and is constructed in typical franchise styles. Although several large greenfield sites are still available, each of them includes real estate signage advertising for commercial development. A new Wal-Mart Supercenter is currently under construction southwest of the Balsey Road/Route 414 intersection on former agricultural lands. North of the railroad tracks, light industrial businesses are found, including an automobile service station, Waterloo Container, Finger Lakes Conveyors, and B.E. Wright Distributing Corporation. Large expanses of open fields are located behind these uses and still appear to be utilized for field crops or other agricultural pursuits. Sections of the Seneca

Meadows landfill complex begin south of Salcman Road and stretch well into sub-area F.

A second strip plaza (Liberty Plaza) is located at the intersection with Balsey Road further east of the intersection of Routes 414 and 5 & 20. This plaza appears to have more vacant space, although newer commercial developments have sprung up around it, including an Aldi's, Rite-Aid and Dunkin Donuts. Following these properties, a large apartment complex and auto sales/self-storage business is located on the northern portion prior to entering the Village of Seneca Falls. At this point the roadway briefly becomes a two-lane road with a center turn lane.

In general, the commercial uses in the sub-area are automobile oriented and typically contain front-loaded parking facilities; wide expanses of pavement; large, freestanding signs; and limited, on-site sidewalks. Although adequate outparcel space appears available on each of the plaza properties, few structures exist.

Recommendations

Land Use/Development

- Zoning between the 5 & 20 and Balsey Road intersections and beyond is designated as highway commercial in the Town's zoning code. Encompassing most of sub-area C, this district allows various uses commercial uses, mostly those that are highway or automobile related. However, these uses are not defined or clarified in the zoning. At a minimum, including a general intent or purpose statement at the beginning of the district, would give applicants general direction as to the preferred development and design of sites.

- General design guidelines should be included within the zoning code or as a separate document for this area. Design guidelines should include elements such as:

- Buildings to include architectural elements rather than large expanses of blank walls. The Wal-Mart Supercenter that is currently under construction in comparison to the existing structure is a good example.

- Parking should include landscaping and treed or vegetated islands in and around parking stalls to break up large expanses of asphalt, provide shade, and help to take up excess stormwater.

- Buildings should be the most prominent feature when observed from the primary roadway, not the parking lot. Lots should be placed to the rear or sides.

Recommendations

- Signs should include features and elements that reflect the building style and be of a reasonable size and scale.
- Long front setbacks, while providing a buffer to the roadway and giving the illusion of lower density, should not be left open and blank. Landscaping, especially trees, provide benefits including higher absorption rates of stormwater; filtering of noise, odors, and air-born pollutants; and provide a pleasant visual buffer.
- A minimum of a 10 foot wide vegetated buffer should be included between the edge of the roadway or sidewalk, whichever is closer, at the building or parking area. (EXAMPLE: dealership at NWC of 5 & 20 and 414)
- Intersections and corner lots typically are high-visibility areas that represent prime real estate space. However, since they are visible from multiple roadways, the site should be held to a higher level of design standards. Commercial uses should be situated and designed in such a manner so that architectural features are incorporated and face the corridor. All sides of the structure should be equally attractive and incorporate similar features. Drive-thru facilities are not recommended, but, if permitted, should not be located adjacent to the primary roadways.
- Several large strip plazas are located within this sub-area and lend themselves opportunities for outparcel development along the corridor. Zoning regulations should allow development flexibility to allow this type of development provided parking and roadway access to Routes 5 & 20 and 414 are shared. The outparcel at the P&C plaza is a good example of what not to do.
- With several large vacant and underutilized parcels remaining between the 5 & 20 and Balsey Road intersections, additional development can be expected. Proposed developments should be encouraged to utilize existing properties or vacated structures in developed areas, such as the soon-to-be vacated Wal-Mart on Routes 5 & 20. The Town should work closely with the property owners to ensure that the parcels and structures will not remain vacant. Incentives for reuse should be examined, such as reduced permitting fees and review timeframes, loan assistance, or termed tax reductions.
- With the majority of the commercial uses located on the north side of the Canal, the properties located on the south side in the study area should remain predominantly agricultural.
- Stormwater retention/detention ponds should be located to the rear or sides of sites, unless the pond is adequately landscaped at its perimeter to give the facility a more natural appearance. Fencing should not be required. In accordance with NYS DEC design guidance "… [a] preferred method is to manage contours of the pond to eliminate dropoffs or other safety hazards." (Chapter 6.1.7 of the NYS DEC Stormwater Management Design Manual)

- In order to encourage more nodal commercial development along the Route 5 & 20/414 corridor, zoning should be reexamined along 5 & 20 and up to Balsey Road.

- Highway commercial zoning classification between the 414 and 5 & 20 intersection and the railroad tracks following the site design and development guidelines recommended above.

- North of the railroad tracks should be light industrial and extend a limited distance out from 414 (1,000 feet). This district should extend up to the landfill entrance on Salcman Road. This would serve as a transitional buffer between the more intensive commercial area between 5 & 20 and Balsey Road and open areas north.

- Agricultural zoning should make up the remainder of the area, with the exception of the landfill.

- Redevelopment and outparcel development in this area can take advantage of its location as between two historical Village's along the Canal as well as between two Finger Lakes. The development of a visitor/information center, recreational, or other niche businesses can provide needed commercial diversity in this area as well as take advantage of marketing and tourism opportunities.

- A business incubator that is jointly sponsored by the Village and Town can help to jump start small businesses in the area. The incubator can be specifically geared to small and niche businesses for the local and regional economy that are not found in the franchised, big-box stores. A business incubator, unlike retail establishments, typically has a lower number of vehicle trips per hour and would therefore have less of a traffic impact while increasing taxable revenue for both municipalities.

Transportation

- Modify zoning code to require sidewalks for all new or significantly redeveloped commercial sites that have access from Routes 5 & 20 or Route 414. Initially development or redevelopment will create isolated sidewalk sections. However, over time, the sidewalk system through this area will become more complete, allowing pedestrians to access the commercial area by foot.

- Enhance pedestrian crossing facilities to improve safety and enhance motorist awareness. Minimum enhancements should include striped crosswalks and pedestrian crossing signs approaching and at the intersection. More advanced enhancements might include decorative sidewalks and the installation of crossing signals. Signal timing should be studied to determine whether a pedestrian-only timing cycle would be appropriate for this intersection.

- Locate a bus stop shelter to provide a safe, comfortable location for transit users. Not only will this protect existing users, it

may encourage more people to use this alternate mode of transportation. As more commercial development occurs in this area, it will be important to ensure employees have multiple means of access employment opportunities.

- Improve the Routes 5&20/414 intersection to address existing levels of service deficiencies. There appears to be ample room to create the left turn bays. The bridge to the south of the intersection should not be an issue as there appears to be plenty of room width wise to accommodate any taper striping should it spill back that far. They could shorten that turn lane to 150 feet if need be to avoid the bridge altogether. Capacity analysis with the recommended modifications shows significantly improved operations during both the evening and Saturday peak hours. The overall average intersection delay will be reduced 31 seconds per vehicle during the evening peak hour and by 23 seconds per vehicle during the Saturday peak hour. All east-west movements will operate at LOS C or better and all north-south movements will operate at LOS D or better.

  ⇨ Widen the northbound and southbound approach to include a 200 foot left turn bay on each approach. The resulting northbound approach would include a left turn bay and through/right lane while the southbound approach would include a left turn bay, a through lane and a right turn lane.

Level of Service Summary
Route 5&20 @ Route 414

Intersection	2009 Evening Peak Hour	2009 Evening Improved	2009 Saturday Peak Hour	2009 Saturday Improved
Route 414 @ Route 5 & 20	**D(55)**	**C(24)**	**D(47)**	**C(24)**
EB Left	C(34)	C(33)	D(37)	C(34)
EB Through/Right	C(23)	C(21)	C(21)	B(19)
WB Left	B(16)	B(15)	B(16)	B(14)
WB Through	C(34)	C(30)	D(39)	C(33)
WB Right	A(7)	A(7)	A(8)	A(7)
NB Left/Through/Right	F(151)	-	F(130)	-
NB Left	-	B(16)	-	B(18)
NB Through/Right	-	D(38)	-	D(38)
SB Left/Through	F(104)	-	F(86)	-
SB Left	-	C(32)	-	C(33)
SB Through	-	C(28)	-	C(30)
SB Right	A(4)	A(6)	A(4)	A(7)

B(15) – Signalized Level of Service (Average Delay Per Vehicle in Seconds)

- ⇨ Modify the signal phasing to include protected/permitted left turn phasing for the north and south approaches.
- ⇨ Revise the signal timing plan to operate on an 80 second cycle length.

Streetscape and Site Design

Sub-Area C is, and will continue to be, a regional commercial center for the County. However, failure to pay close attention to streetscape and site design issues will result in an unattractive commercial corridor that will decline in value and appearance over time. The following recommendations are designed to enhance appearance, increase value and ensure long-term viability over time.

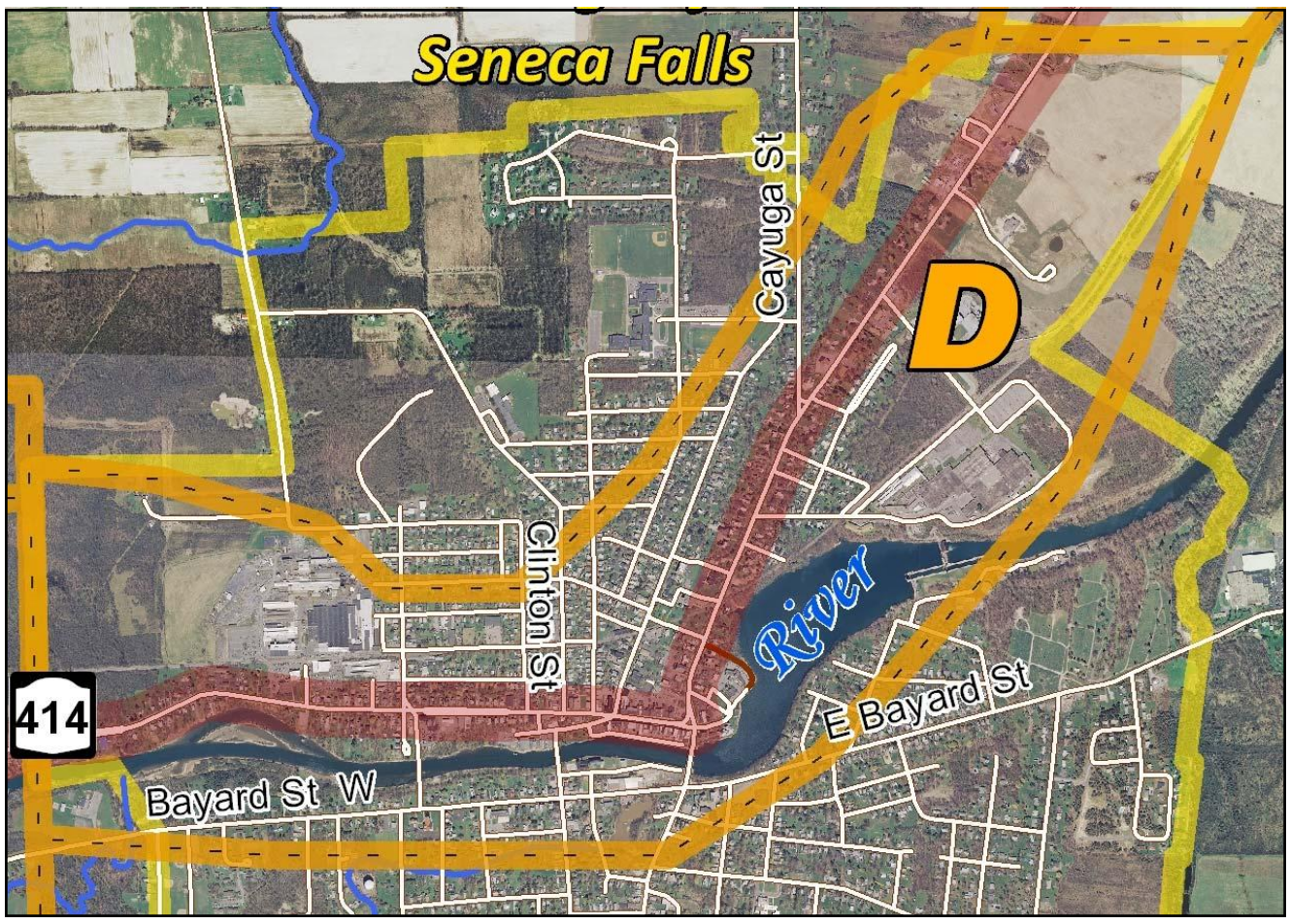
- Sidewalk installation should incorporate an adequate tree lawn (minimum of four feet wide) to allow for street tree planting. The plantings will provide visual enhancement and physical buffer for pedestrians walking this area.
- Landscaping standards should be established to ensure that site design incorporates sufficient landscaping and lawn areas. Additionally, landscaping must be maintained over time to ensure it continues to add value to development over time.
- As a major link to the Finger Lakes, Montezuma National Park and a heritage area (e.g., women's suffrage), this area must serve as a suitable gateway to these and other attractions. Decorative wayfinding and destination signage should be installed that complements signage in surrounding communities.
- On-site circulation should be designed to be clear and easily navigable, with pedestrian amenities that connect various businesses and the adjacent roadways.
- Promote out-parcel development to maximize development potential and reduce the proliferation of strip development along the corridors.
- Identify through signage, the preferred bicycle route(s) through this portion of the study area.

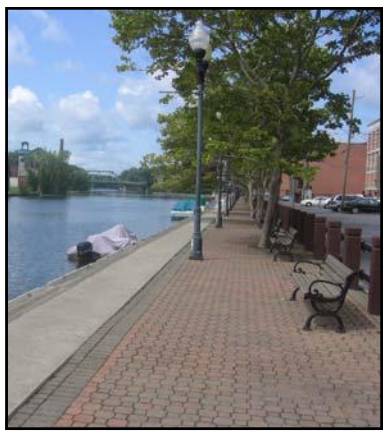
Examples of decorative wayfinding signage from Rochester, NY (left) and Independence, MO (right).

Recommendations

Land Use & Development Best Practices Concept

1. Corner buildings have a prominent design and built closer to street for visibility and give identity to the area.
2. Opposite entrances aligned.
3. Parking predominantly to the sides and rear.
4. Large areas of vegetation/wetlands preserved.
5. Internal access road limits extra traffic on Route 414.
6. Cross access opportunities.
7. Revised plaza parking layout with landscaped islands.
8. New outparcel development utilizing empty space and shared parking.
9. Realigned plaza entrance - one entrance only on Routes 5/20.
10. Additional street trees to create sense of place and narrow visual field.
11. Eliminate multiple access points on Routes 5/20.
12. New commercial development built closer to the corner with limited frontage parking.


Seneca Falls
Cayuga St
D
Clinton St
River
E Bayard St
414
Bayard St W



SUB-AREA D

(Seneca Falls western village line to eastern village line)

Characteristics

In contrast to the Village of Waterloo, initial entrance into the Village of Seneca Falls is indicated by a DOT-style traffic sign and a speed limit drop to 30 mph. Several, smaller commercial uses are located in this area, but they are overshadowed by the presence of the partially-vacant Seneca Falls Technology Group building. Upon passing this small section, the decorative version of the Village sign is observed, similar in nature to Waterloo, and single-family residential homes become the predominant feature. The roadway becomes a two-lane road with a wide shoulder on the north side before changing again to a two-lane road with a center, striped median and no shoulders. Goulds Pumps/ITT maintains a large industrial property on the north side of the corridor that extends north past the railroad tracks at Black Brook Drive. Surrounding this property are single-family residential homes which, similar to Waterloo, are arranged in a typical village fashion on a gridded system of streets.

Sporadic commercial uses are found along the corridor leading up to the central business district; some are converted uses such as the Peter Koch dealership or were built circa 1950's. Homes along Routes 5 & 20 appear to be set back much further in comparison to Waterloo; however, a closer examination reveals that the presence of on-street parking and a second travel lane in Waterloo makes this an illusion. On-street parking is only located within the central business district of the Village of Seneca Falls, which roughly runs from Clinton Street to Cayuga Street/Trinity Lane. Road lanes also become much wider in this area and high-visibility crosswalks are located throughout the business district. Many of the crosswalks also include audible alert systems in addition to electronic crossing indicators.

Seneca Falls appears to have a smaller and less dense central business district due to the fact that the buildings are only two to three stories, in comparison to the three and four story structures in Waterloo. The main commercial area, consisting of the continuous storefront façade, is found mainly along Routes 5 & 20; as the roadway turns north the commercial uses are spaced wider apart and do not maintain the continuous façade appearance.

Similar to Waterloo, structures here consist primarily of brick with windowed storefronts on lowers floors and public amenities within the right-of-way include benches, decorative light poles and banners, planters, and street trees. Sidewalks span the entire right-of-way between the building line and the edge of the roadway. Many of the buildings contain a mix of retail, service and restaurants on lower floors and possible residential or office space above. Unlike Waterloo, Seneca Falls' business district splits

between Cayuga Street/Routes 5 & 20 and State Street; north of the railroad tracks, residential homes are the predominant uses on State Street. Many of the residential side streets are well maintained and contain narrower sidewalks along both sides of the street.

Taking advantage of its location along the canal, this section of the corridor also contains a small canal side park, harbor area, and community center just south of business district. The Seneca Falls Canal Harbor contains numerous mooring points and a brick paver walking path with decorative light poles, benches, trees, planters, and informational signage as well as expansive views and public access to the water. Cowing Street, which runs parallel to the harbor, ends abruptly just before the Ovid Street/Route 414 bridge. The rear of the buildings contain parking space for tenants and are not uniform in their appearance or location from the roadway, which gives the area an unwelcoming appearance. The opposite (south) side of the canal is underdeveloped, but does contain a small access road off of Bridge Street that passes by the Seneca Knitting Mills, the last historical structure standing from the Village's heyday during the Industrial Revolution.

As Cayuga Street/Routes 5 & 20 continue northeast, the sidewalks remain, although they are set back much further from the roadway and street trees line the roadway. Several large, ornate residential homes are located within this section as well; some dating back to the early 1900's. As Cayuga Street splits from Routes 5 & 20, the sidewalks end and three to four foot wide shoulders take their place. Properties become wider and residential homes consist of ranch-style buildings interspersed with a variety of older commercial uses, including the Seneca Falls East II apartment complex. Several vacant and underutilized properties are also found in this section as well as Seneca Falls Industrial Park, which is located on the south side of the street off of Lamb Road. Just past Lamb Road, the speed limit on the roadway increases to 45 mph. Approaching the eastern Village limits, the area becomes more open and rural with vacant and active agricultural fields located on both sides of the street.

Recommendations

Land Use/Development

- The Goulds Pump/ITT complex is a major industry and employer in the Village of Seneca Falls, yet its mass is not as visibly apparent to those traveling along Routes 5 & 20/414. The combination of proper landscaping and site and building design should be mirrored and incorporated for the industrial area on the eastern portion of the Village, including:
- Frontage landscaping to provide a visual buffer and become more aesthetically pleasing to motorists and potential park tenants.
- Buildings should be designed with architectural features or a prominent entrance to enhance the visual appeal.

Recommendations

- Similar to the Village of Waterloo, little vacant land exists in Seneca Falls for new development; redevelopment opportunities do exist at the borders as well as just outside of the central business district. With residential homes making up the remainder and majority of the uses, maintenance of structures should be a priority to maintain the corridor's appearance and secure property values.

- Occasionally, newer developments, in comparison to the age of the surrounding building stock, have been built out of context with adjacent uses in regards to building set back. Where redevelopment is possible, structures should be set back similar to adjacent uses to eliminate the "broken tooth" appearance along the corridor. If redevelopment is not possible, landscaping and other hardscape features should be encouraged to give the appearance of a closer set back and a better fit with surrounding uses. This is more apparent between Powell Place and Black Brook Road with several gas stations and other commercial businesses.

- Consider rezoning industrial lands north of the Deer Run Industrial Park to agricultural as most of these lands are not utilized for industrial purposes and agricultural fields are found adjacent to this area.

- The central business district abruptly ends prior to the intersection with Cayuga Street, which overlaps with Routes 5 & 20; a large parking lot is found at the northwest corner. Redevelopment of this site should be encouraged or studied in order to give the district some continuity in the streetscape. In addition, infill development of some sort complete the intersection, which currently has buildings built to the lot line on the remaining three corners.

Transportation

- Improve visibility of existing crosswalks by repainting crosswalks more regularly or by utilizing decorative materials (e.g., stamped or colored asphalt)

- Maintain and replace sidewalks to ensure they are ADA compliant.

- Consider installation of sidewalk bulb-outs to reduce crossing distances and provide buffering for on-street parking.

- Identify through signage, the preferred bicycle route(s) through this portion of the study area.

Seneca Falls' active pedestrian environment requires special attention be given to crosswalk design and maintenance.

- Consider bicycle rental locations in the study area, particularly near the waterfront to encourage residents and visitors to explore the Village and surrounding area via bicycle.

- A roundabout may be suitable for the intersection of Routes 5 & 20 and 414, especially with the potential development on the southeast corner of Balsey Road and Route 414 and redevelopment elsewhere in the vicinity. Additional study of the road geometry and traffic volume should be undertaken to determine whether this potential improvement can be accommodated. (See page 54).

Streetscape and Site Design

- In the Central Business District, there is ample room for additional street tree plantings. Trees should be installed every 40 to 60 feet utilizing decorative tree grates, rather than a planted tree lawn.

- Additional urban furnishings should include benches and bike racks to provide pedestrians and bicyclists with the amenities they need and want when traveling to downtown area.

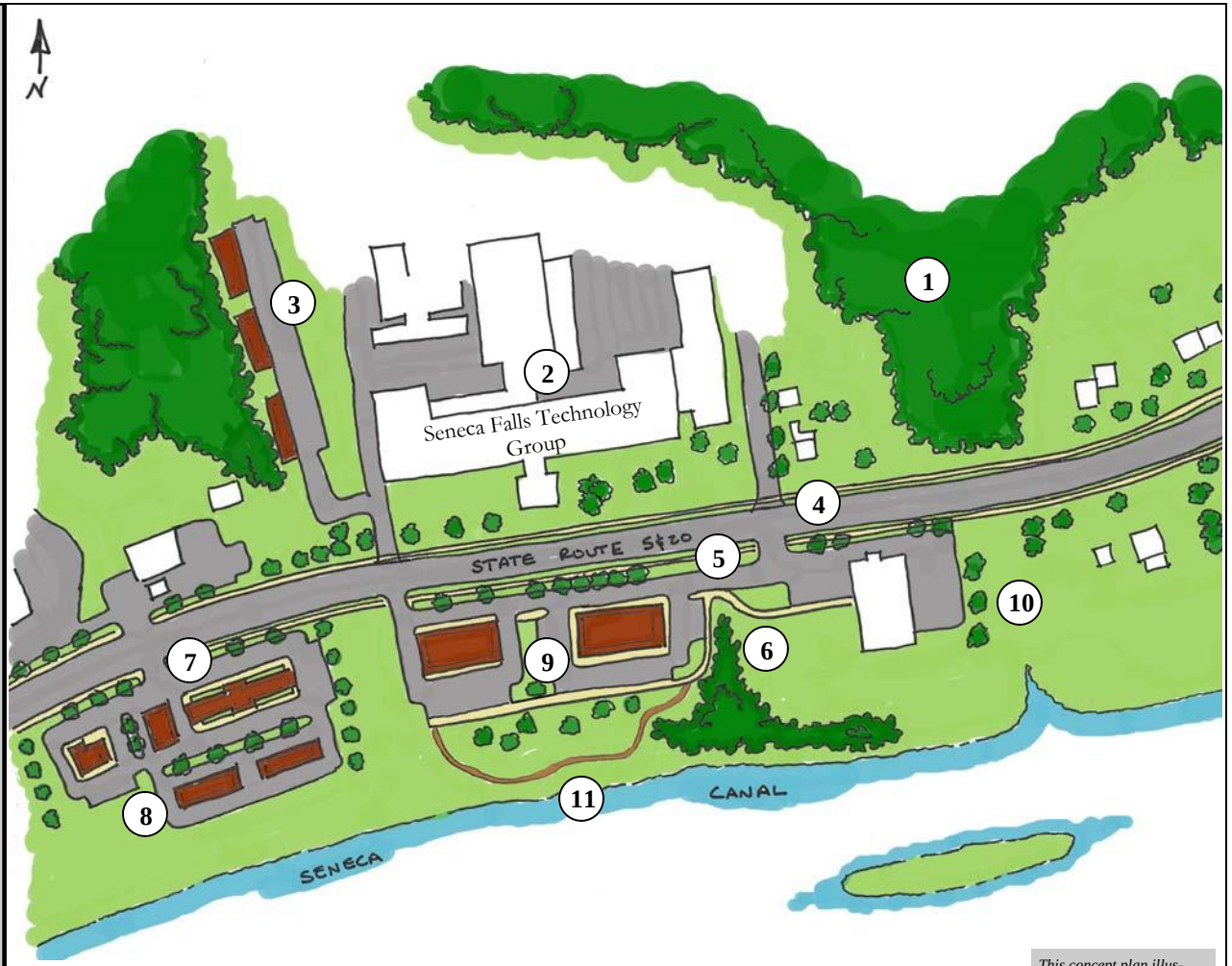
- Any large parking areas should be located between buildings and include landscaping throughout the parking areas to breakup large expanses of pavement.

- Locate parking to the side or rear of buildings in all development and redevelopment, especially those fronting on Route 5&20.

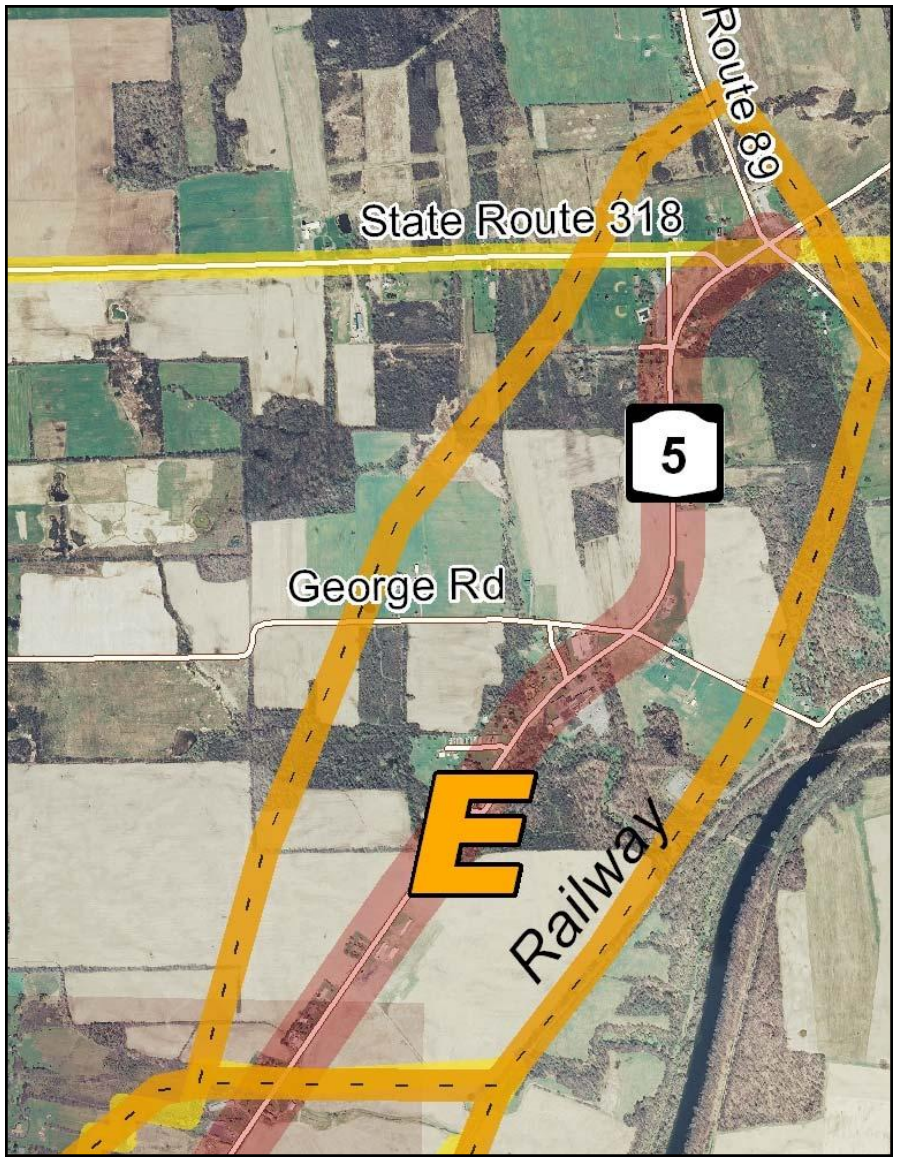
Street trees would enhance visual appeal, establish a more consistent streetscape and provide safety and environmental benefits to this portion of the study area.

Land Use & Development Best Practices Concept

1. Maintain natural or woodland areas.
2. Revitalize existing façade to promote as a landmark/historical feature within the Village.
3. Infill development that utilizes narrow lot and adjacent access.
4. Minimize curb cuts and align opposite access points.
5. Cross-access opportunities.
6. Increased internal pedestrian connections and to adjacent sites.
7. Buildings should face the street with trees and green space.
8. Parking to the rear and sides.
9. Increase density and decrease scale approaching the Village.
10. Buffers between commercial and residential areas.
11. Provide connection to the canal in coordination with private development.



This concept plan illustrates best practices for site design and land use. It should not be interpreted as an actual plan for development.


Route 89
State Route 318
5
George Rd
E
Railway


FRESH FUDGE

SUB-AREA E

(Seneca Falls Eastern village line to Route 5 & 20/318/89 intersection)

Characteristics

This section of the corridor contains very few uses and more open and vacant fields and woodlots. Residential frontage lots and commercial uses are scattered throughout, with many of the commercial uses in less than ideal condition. In a few locations, billboards are found alongside the roadway as well as numerous real estate signs. The intersection of Routes 5 & 20, 318 and 89 contain two viable commercial uses – the Montezuma Winery and a small engine repair and sales facility. A large residential parcel and vacant property make up the remainder of the uses at the intersection. Controlled by a traffic light, the roadway consists of two-lane road with wide shoulders and turning radii to accommodate truck traffic traveling on Route 89. A separate turning lane from Routes 5 & 20 onto Route 318 is located further west of this intersection.

Recommendations

Land Use/Development

- In order to encourage nodal development along this portion of the corridor, zoning districts may need to be altered to prevent strip commercial development along the corridor.
- Consider designating portions of the corridor as Agricultural, leaving the industrial zone on the east side of Routes 5 & 20 and possibly a small commercial node at the intersection with George Road.
- The primary commercial node should be located at the intersection with Routes 318 and 89. This is one of the primary routes for those bypassing the traffic through the Village of Seneca Falls to points east and south. As such, this is an area of high visibility to motorists. Commercial development in this area should capitalize on tourism opportunities given its gateway into the Finger Lakes area. Like the Montezuma Winery, future businesses should complement the area's natural and historic resources.

Transportation

- Support the design and construction of the Montezuma Trail which will run along Route 89 through the study area.
- Examine future potential improvements to the Route 5&20/ Route 318 intersection. This intersection currently has an "E" level of service during the Saturday peak hour. (See pages 33-34) While this is acceptable for now, it will likely begin to degrade in the near future. The intersection may warrant a traffic signal or other treatment to improve operations.
- The Cayuga-Seneca Canal Trail Master Plan identified this area for continuing the Cayuga Lake Scenic Byway through on– and off-road trail connections to the Montezuma National Wildlife Refuge and other points to the north and east. A pedestrian crossing would be required for the Routes 5 & 20 and 89 intersection. At a minimum, signage and road striping would be required; the installation of a pedestrian-actuated signal is also highly recommended.
- In the long term, the eastern terminus of the study area may be suitable for the installation of roundabouts to move traffic through this area. This potential improvement will require additional study to determine whether the volumes and geometry of design can adequately accommodate such an improvement. (See page 54).

Streetscape and Site Design

- More rural in nature, larger setbacks should be encouraged in this area, except at the intersection with Route 89 where closer setbacks at the intersection would help define the node.
- Given the rural character of this sub-area, streetscaping enhancements would mostly likely focus on the installation of decorative flags and signage and edge of parcel landscaping and tree plantings.
- Public art may be appropriate at the town gateways to reflect the town's unique heritage and character.
- Long-term improvements may include: installation of decorative lighting; curbs to define the roadway edge; and construction of sidewalks or multi-use pathways, especially in the hamlet areas to enhance pedestrian connections.

Recommendations

Land Use & Development Best Practices Concept

1. Buffering to adjacent residential properties.
2. Smaller footprint for commercial buildings to maintain the rural character.
3. Potential trail connections and trail head. (Trail integrated with site.)
4. New buildings sited closer to the corner for higher visibility with parking to the rear or sides.
5. Entrances aligned and sited adequate distance from the intersection.
6. New development shares parking and access and is sited to minimize extensive earthwork and clearing.
7. Large areas of green space help to maintain the rural character.
8. Pedestrian connections.
9. Existing utility easements retained and integrated with site.

This concept plan illustrates best practices for site design and land use. It should not be interpreted as an actual plan for development.


Exit
41
414
Worden Rd
Strong Rd
F
Town of
Seneca Falls
Salcman Rd


TOWN OF
TYRE

SUB-AREA F

(Route 414/Salcman Road intersection (Sub-Area C) to Route 414/318 intersection)

Characteristics

Located north of the railroad bed, sub-area F consists of several light industrial and commercial uses, but the predominant use is the Seneca Meadows Landfill Facility located on the west side of Route 414. Many of the uses are set back a considerable distance from the roadway with little to no landscaping and expansive parking areas. Aside from commercial uses and the landfill, very few residential properties are found in this area. Active farmland and vacant woodlots are found adjacent to and surrounding the corridor. This is only within this section of the corridor that the speed limit is posted as 55 mph, yet the roadway remains a two-lane road with wide shoulders.

Approaching the Town of Tyre to the north, the roadway is scattered with single-family residential lots consisting mainly of ranch-style and mobile homes. Active farm fields are more prevalent in Tyre along Route 414 in comparison to the Town of Seneca Falls. In the hamlet of Magee, at the intersection of Routes 414 and 318, a large gas station and vacant commercial lot make up the intersection. Just north of this intersection is the NYS Thruway plaza for exit 41 and Petro truck center.

Recommendations

Land Use/Development

- Mirroring the desire for more nodal development along Route 414 in sub-area D, zoning should be reexamined within this section up to the hamlet of Magee (intersection with Route 318).

- With limited commercial uses north of the landfill entrance on Salcman Road, agriculture should be the preferred district as several fields in and adjacent to the corridor are actively tilled. In addition, with the wide expanse of wetlands and floodplains in this area, the addition of impervious surfaces has the potential to exacerbate localized drainage and flooding. This will also help to reduce additional strip-style commercial development along Route 414 as well as the multiple access points that follow.

- Current zoning for the 414 corridor in the Town of Tyre, with agriculture as the dominant district, a small industrial zone and residential along Worden Road is sufficient. Commercial zoning around the hamlet of Magee is sufficient as well, provided new

development around the intersection adheres to design guidelines.

- Corner parcels are high visibility sites that, when developed, should be built up to the setback line at a minimum. In addition, a combination of landscaping and buildings with design features that front the primary road add to the visual appeal of the area and help to draw positive attention.

- Businesses with a drive-thru or detached canopy should have these features located to the side or rear of the primary structure. The architecture and design of these features should reflect, and not detract from, the design of the primary structure.

Transportation

- Support the addition of dedicated right lanes near major access points to the landfill.

- Align future access points to minimize the number of off-set driveways, which could increase potential for left turn accidents.

Streetscape and Site Design

- Front-loaded parking lots should not be allowed. Limited convenience parking can be located at the front with the remainder at the sides or rear. Interaction with the building and business should be the primary goal, not expansive parking.

- Modify zoning and subdivision regulations to require vegetative buffering or decorative fencing to limit views of industrial uses and related storage of materials.

Land Use & Development Best Practices Concept

1. Entrances aligned.
2. Buildings built closer to corner to corner to provide definition to the intersection.
3. Maintain tree cover and natural areas as buffers and important habitats.
4. Parking set back behind buildings.
5. Internal pedestrian connections.
6. Density is slightly higher near the intersection and then decreases.
7. Landscaping and green space helps to soften edges, slow vehicles, and retain rural character.
8. Access road for multiple properties.
9. Office & business development clustered where sewer/water available with buffer.

This concept plan illustrates best practices for site design and land use. It should not be interpreted as an actual plan for development.

Moving Forward

This study uncovered many opportunities to enhance land use and transportation policies and decision making. Many of the actions identified in the plan will require each municipality to take individual action, such as modifications to zoning, site plan review and subdivision regulations. However, there are opportunities for collective action among the municipalities, including Seneca County.

Through this planning study, several priority follow-on activities emerged:

- Each municipality should conduct a zoning code review and identify necessary updates to implement regulatory changes related to land use and access management. Changes to land use regulations will help ensure that future development and redevelopment occurs in a way that will benefit the community and maximize the corridors' potential.

- Create memorandum of understandings, ad hoc committees or more formal systems to promote inter-municipal cooperation related to access management and development, particular commercial development.

- Ensure that future transportation improvements recommended as a result of incoming development (e.g. Walmart Super Center) are made as thresholds are reached.

- Considering creating inter-municipal access management regulations and/or zoning overlay district for the entire study area or specific portions of the study area to ensure well managed, compatible development occurs over time.

Acknowledgements

Seneca County would like to thank the residents, merchants, local leaders, board members and other interested stakeholders who provided input and feedback throughout the planning process. Special thanks are owed to members of the Steering Committee and Seneca County staff who donated significant time and effort to the completion of this planning study.

Steering Committee Members:

Name	Affiliation and Title/Role
Sean Murphy	NYS DOT (Region 3), Office of Planning & Program Management
Julie Gotham	Genesee Transportation Council (GTC), Program Manager
Roy Gates	Seneca County Highway Superintendent
Jason McCormick	Seneca County Engineer
Mitchell Rowe	Seneca County Planning & Community Development Director
Harriet Haynes	Seneca County Planner
Joseph Cordaro	Town of Seneca Falls Planning Board Member
Jeff Warrick	Village of Seneca Falls Public Works Commissioner
Ronald McGreevy	Town of Tyre Planning Board Member
Gary Westfall	Village of Waterloo Administrator
Scott Ridley	Waterloo Town Board Member

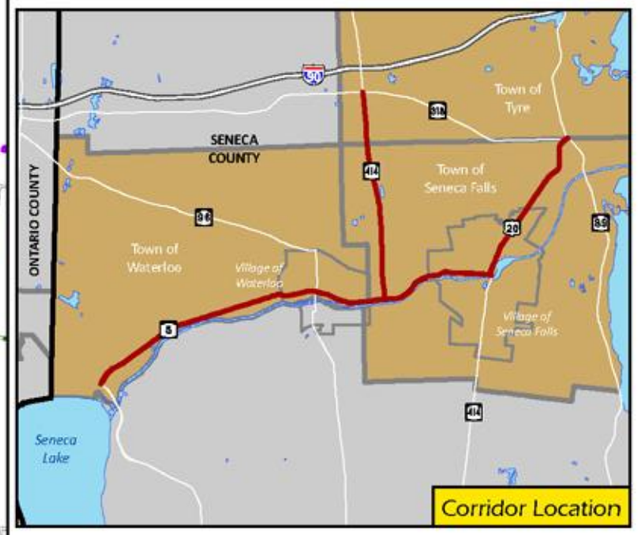
Clark Patterson Lee and GTS Consulting provided planning and transportation consultant services for the development of this corridor plan.

Appendix A
Mapping

Legend

- Municipal Boundaries
- Hydrography
- Study Area
- Interstate
- State Roads
- Local Roads
- Seneca Transit Service routes
- Former Rail Line
- Active Rail Line
- Existing trails
- Planned trails
- Trails Under Development

Data Source: NYS GIS Clearinghouse, GTC, CUGIR



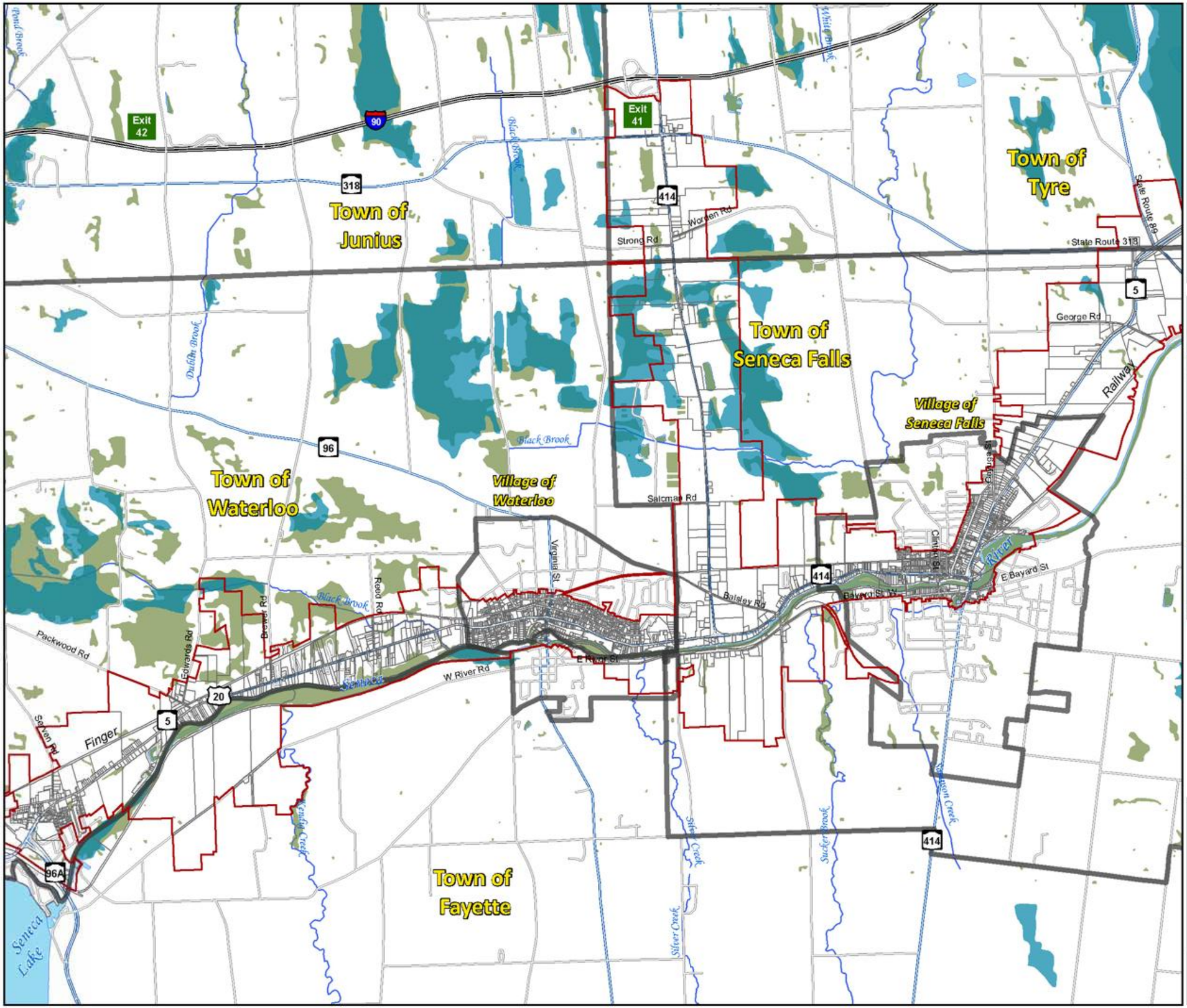
State Routes 5 & 20/414 Corridor Study

- Town/Village of Waterloo - Town/Village of Seneca Falls - Town of Tyre -

Clark Patterson Lee

1 inch = 4,000 feet
(11" x 17" sheet)

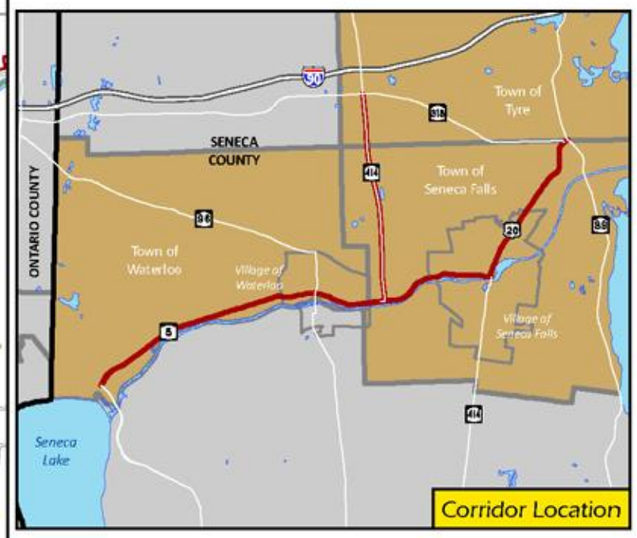
Map 1: Transportation Network



Legend

- Municipal Boundaries
- Study Area
- Creeks/Streams
- Hydrography
- NYSDEC Wetlands
- Federal Wetlands

Data Source: NYS GIS Clearinghouse, USFWS, CUGIR



State Routes 5 & 20/414 Corridor Study

- Town/Village of Waterloo - Town/Village of Seneca Falls - Town of Tyre -

Clark Patterson Lee

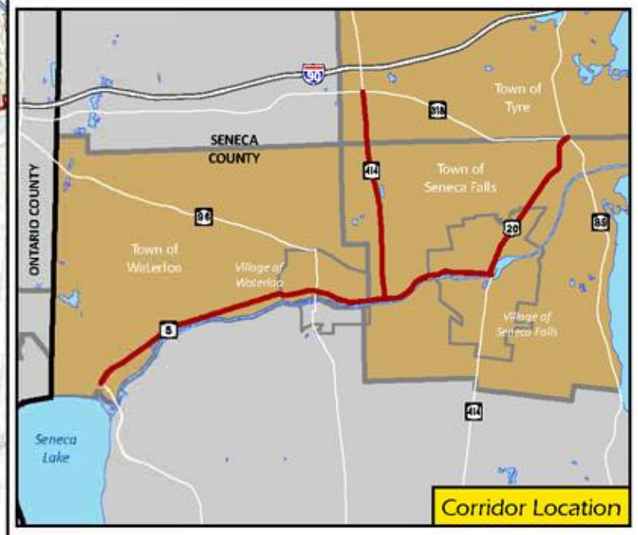
1 inch = 4,000 feet
(11" x 17" sheet)

Map 2: Waterbodies & Hydrology

Legend

- Municipal Boundaries
- Study Area
- Parcels
- Hydrography
- Creeks/Streams
- Topography (800)

Data Source: NYS GIS Clearinghouse, USFWS, CUGIR



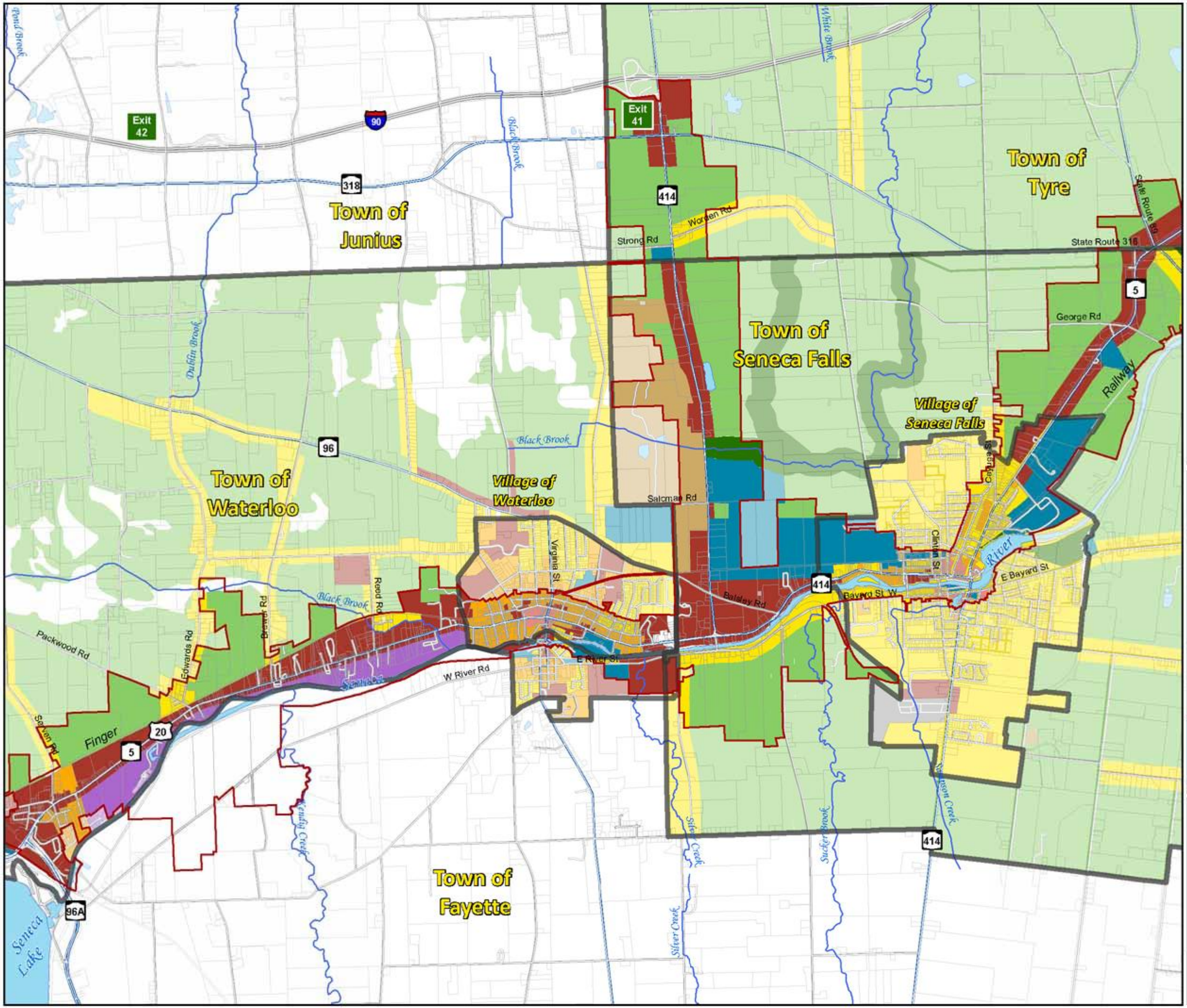
State Routes 5 & 20/414 Corridor Study

- Town/Village of Waterloo - Town/Village of Seneca Falls - Town of Tyre -

Clark Patterson Lee

1 inch = 4,000 feet
(11" x 17" sheet)

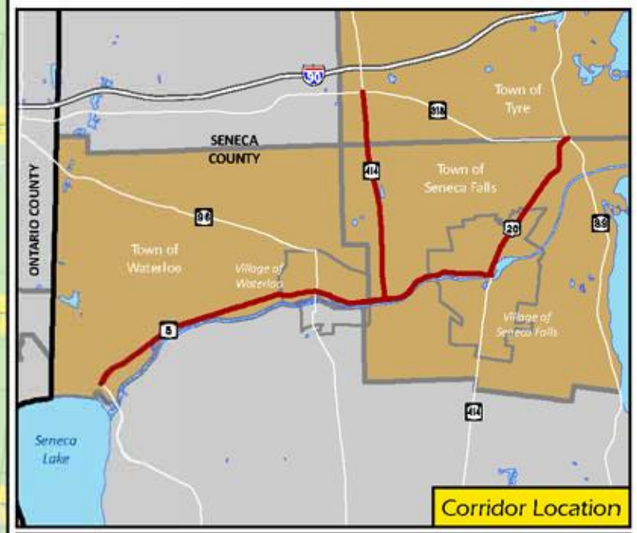
Map 3: Topography



Legend

- Municipal Boundaries
- Study Area
- Parcels
- Hydrography
- Creeks/Streams
- Local Commercial
- Commerical
- Conservation
- Industrial
- Mobile Home
- Multi-Family Residential
- Single Family Residential
- Multiple Use
- Refuse Disposal
- Agricultural

Data Source: NYS GIS Clearinghouse, Seneca County, T/V Seneca Falls, Town of Tyre, T/V Waterloo



State Routes 5 & 20/414 Corridor Study

- Town/Village of Waterloo - Town/Village of Seneca Falls - Town of Tyre -

Clark Patterson Lee

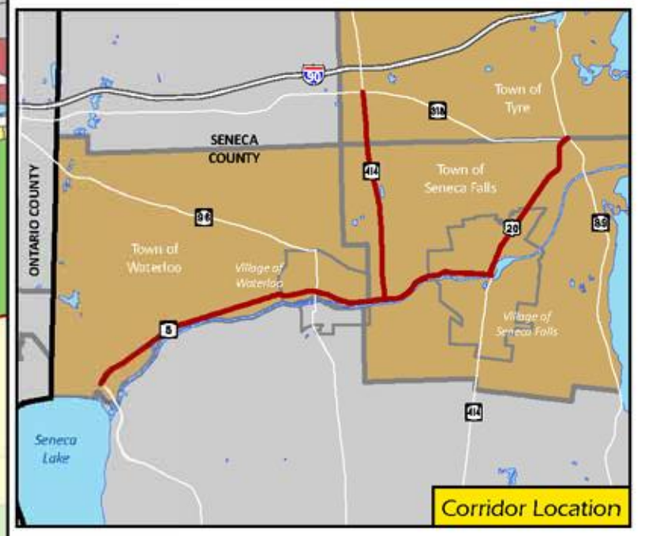
1 inch = 4,000 feet
(11" x 17" sheet)

Map 4: General Zoning Districts

Legend

- Study Area
- Municipal Boundaries
- Insufficient Data
- Agricultural
- Residential
- Vacant Land
- Commercial
- Recreation & Entertainment
- Community Services
- Industrial
- Public Services
- Conservation & Parks

Data Source: NYS GIS Clearinghouse, Seneca Co. Real Prop. Dept.



State Route 5 & 20/414 Corridor Study

- Town/Village of Waterloo - Town/Village of Seneca Falls - Town of Tyre -

Clark Patterson Lee

1 inch = 2,500 feet
(11" x 17" sheet)

Map 5A: Existing Land Use (west)

Town of Junius

Town of Tyre

Town of Waterloo

Town of Seneca Falls

Village of Waterloo

Village of Seneca Falls

Exit 41

90

318

414

20

5

89

Worden Rd

Strong Rd

King Rd

George Rd

Hyatt Rd

Burgess Rd

Black Brook Rd

Gravel Rd

Salcman Rd

Lamb Rd

Johnston St

State St

Rumsey St

Clinton St

Bridge St

E Bayard St

Bayard St W

Baisley Rd

North Rd

Swift St

Virginia St

E Williams St

Mill St

Inslee St

Washington St

River Rd

E River Rd

Gorham St

Silver Creek Golf Course

Montezuma National Wildlife Refuge

Black Brook

Seneca River

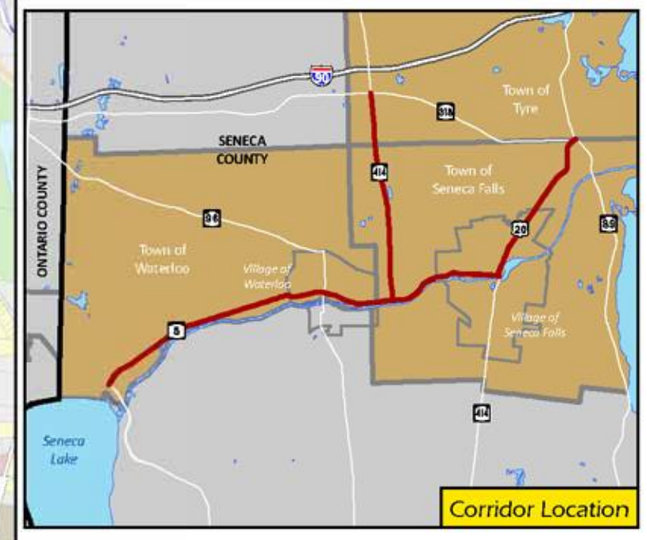
Sucker Brook

Sampson Creek

Legend

- Study Area
- Municipal Boundaries
- Insufficient Data
- Agricultural
- Residential
- Vacant Land
- Commercial
- Recreation & Entertainment
- Community Services
- Industrial
- Public Services
- Conservation & Parks

Data Source: NYS GIS Clearinghouse, Seneca Co Real Prop. Dept.



State Routes 5 & 20/414 Corridor Study

- Town/Village of Waterloo - Town/Village of Seneca Falls - Town of Tyre -

Clark Patterson Lee

1 inch = 2,500 feet
(11" x 17" sheet)

Map 5B: Existing Land Use (east)

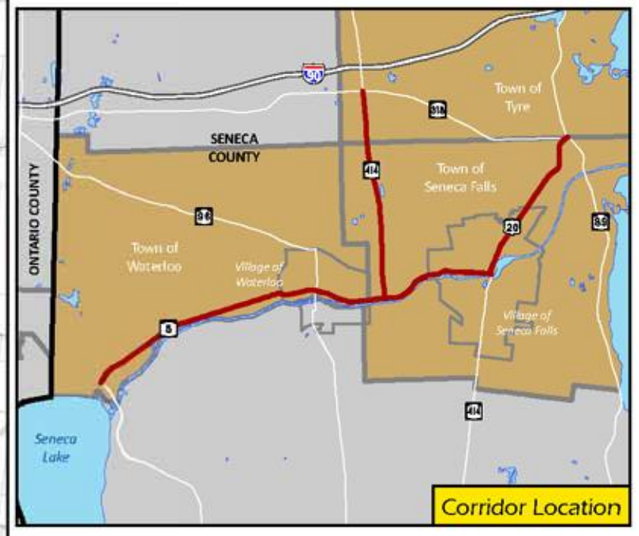
Legend

- Municipal Boundaries
- Study Area
- Hydrography
- Creeks/Streams
- Agricultural District 6
- Agricultural District 8

Agricultural Classification

- General Agriculture
- Productive Ag land only
- Livestock & Products
- Field Crops

Data Source: NYS GIS Clearinghouse, Seneca Co Real Prop. Dept.



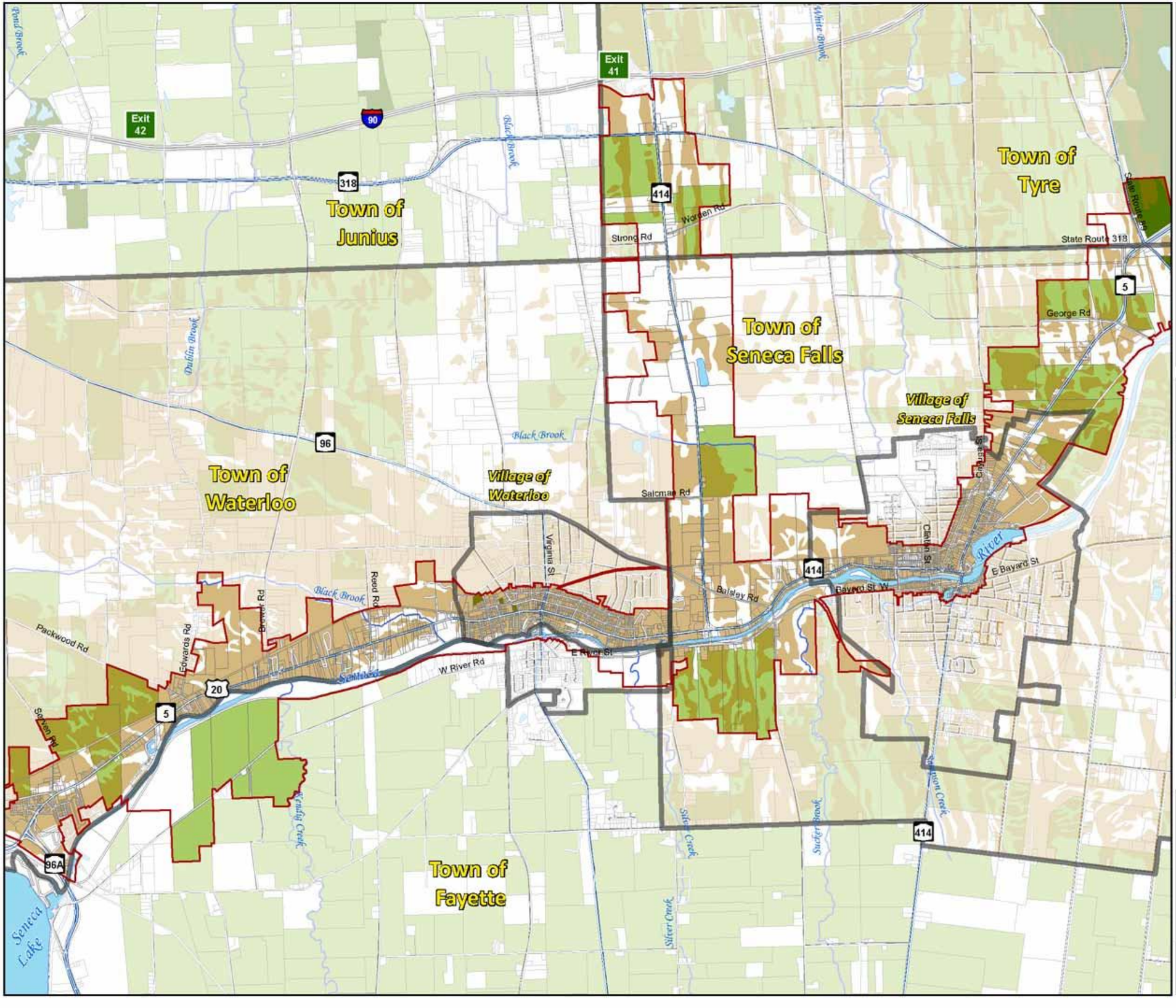
State Routes 5 & 20/414 Corridor Study

- Town/Village of Waterloo - Town/Village of Seneca Falls - Town of Tyre -

Clark Patterson Lee

1 inch = 4,000 feet
(11" x 17" sheet)

Map 6: Agricultural Districts & Parcels



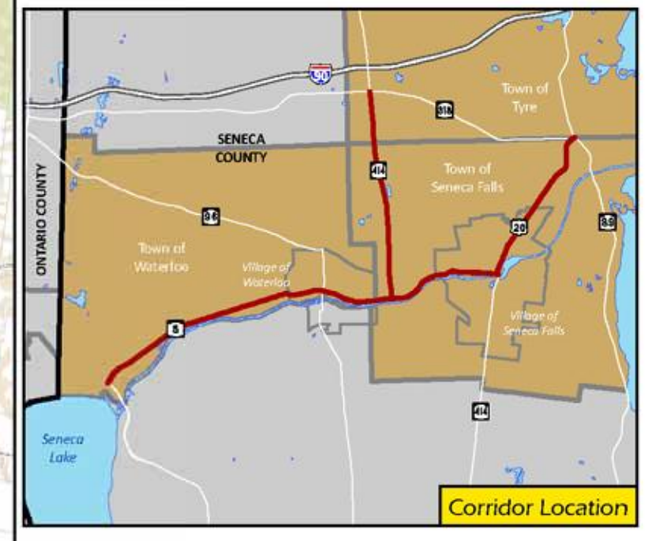
Legend

- Municipal Boundaries
- Study Area
- Hydrography
- Creeks/Streams
- Prime Agricultural Soils

General Parcel Classification

- Agricultural Parcels
- Non-Agricultural Parcels
- Conservation & Parks

Data Source: NYS GIS Clearinghouse, Seneca Co Real Prop. Dept., USDA NRCS



State Routes 5 & 20/414 Corridor Study

- Town/Village of Waterloo - Town/Village of Seneca Falls - Town of Tyre -

Clark Patterson Lee

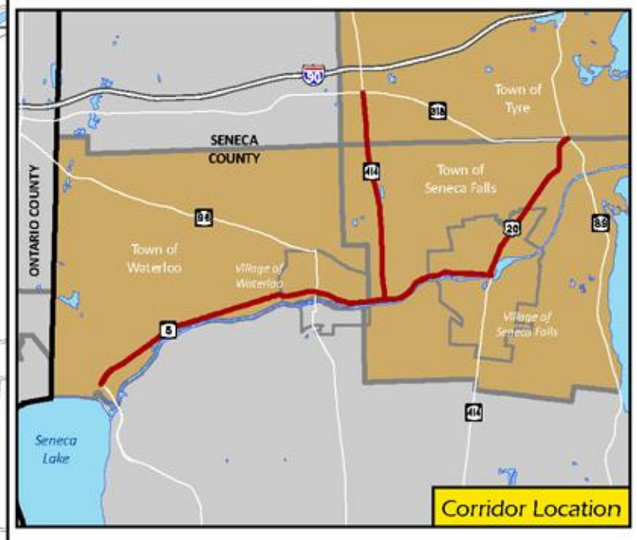
1 inch = 4,000 feet
(11" x 17" sheet)

Map 7: Prime Farm Soils

Legend

- Municipal Boundaries
- Hydrography
- Study Area
- Interstate
- State Roads
- Local Roads
- Former Rail Line
- Active Rail Line

Data Source: NYS GIS Clearinghouse, GTC, CUGIR



State Routes 5 & 20/414 Corridor Study

- Town/Village of Waterloo - Town/Village of Seneca Falls - Town of Tyre -

Clark Patterson Lee

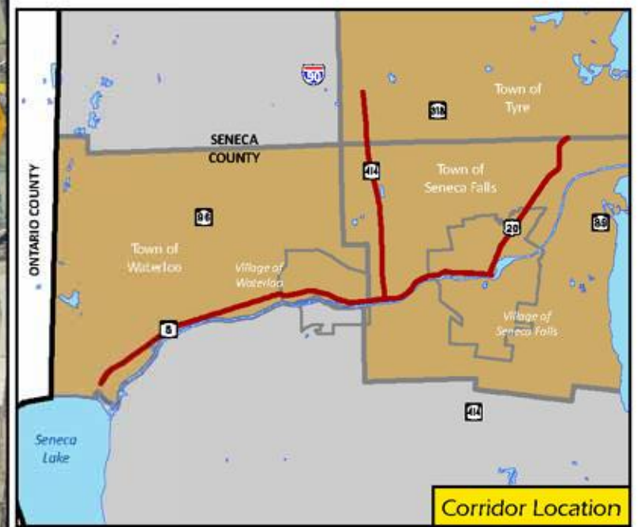
1 inch = 4,000 feet
(11" x 17" sheet)

Map 8: Intersection Level of Service

Legend

- Municipal Boundaries
- Study Area
- Study Sub-Areas

Data Source: NYS GIS Clearinghouse, CUGIR



State Routes 5 & 20/414 Corridor Study

- Town/Village of Waterloo - Town/Village of Seneca Falls - Town of Tyre -

Clark Patterson Lee

1 inch = 4,000 feet
(11" x 17" sheet)

Map 9: Study Sub-Areas

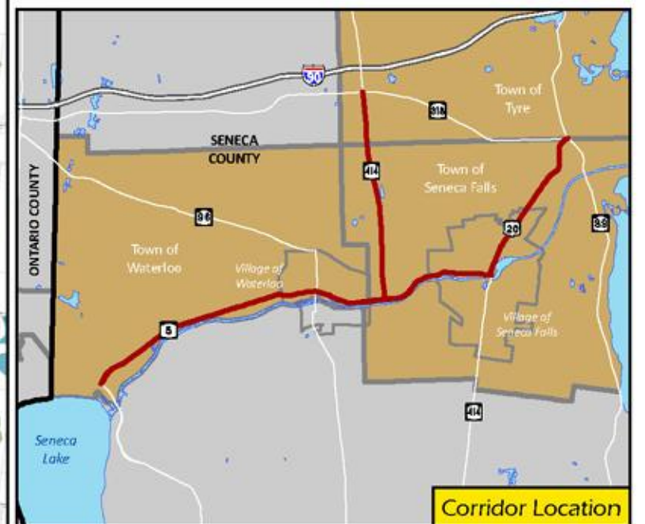
Legend

- Municipal Boundaries
- Study Area
- Parcels
- Agricultural Parcels
- Vacant Parcels
- Hydrography
- Creeks/Streams
- NYSDEC Wetlands
- Federal Wetlands

Potential Developable Parcels

Municipality	Agricultural		Vacant	
	No. Parcels	Total Acreage	No. Parcels	Total Acreage
Town of Tyre	5	261	13	125
Town of Waterloo	4	304	74	173
Town of Seneca Falls	14	965	49	520
Village of Seneca Falls	1	23	56	64
Village of Waterloo	0	0	59	17
TOTAL	24	1,553	251	899

Data Source: NYS GIS Clearinghouse, Seneca County, T/V Seneca Falls, Town of Tyre, T/V Waterloo



State Routes 5 & 20/414 Corridor Study

- Town/Village of Waterloo - Town/Village of Seneca Falls - Town of Tyre -

Clark Patterson Lee

1 inch = 4,000 feet
(11" x 17" sheet)

Map 10: Corridor Build-Out Potential

Appendix B
Build Out Analysis

Build-Out Analysis

As part of the corridor study, a build-out analysis was performed to determine the potential amount of new development in the corridor. A build-out analysis estimates the amount and approximate location for future development given the existing land use and development regulations in each municipality. Generally, a build-out analysis is a "worst-case" scenario in which all available land that could be developed is examined based on the assumption that the existing zoning regulations remain as they currently are and no additional land is permanently protected. This information is important to municipalities for estimating future demands to infrastructure as well as testing development regulations to determine if the potential development is desired or if zoning and regulation changes are warranted.

For the Towns and villages in the 5-20-414 corridor, however, full build-out is not likely to occur for another 15 to 20 years. In reality, the scenario outlined below could take much longer to occur if at all, depending on the economy or development pressures. The intersection of Routes 5 & 20 and 414 may be built out sooner due to the high traffic volumes that exist as well as the higher concentration of auto-dependent and "big-box" style stores that have already located there.

The analysis examined all the parcels within the corridor study area, which was identified as 1,500 feet on both sides of Routes 5 & 20 and 414. These parcels were then narrowed down to those that have reasonable potential to be developed. Most new development in the region takes place on vacant land or farmland that is sold off and subdivided. The NYS Office of Real Property Services developed a property land use classification system that identifies land based upon its primary use. This classification code was used to determine the number of agricultural and vacant lands located in the corridor.

The total acreage of all the developable parcels is tabled and summarized below in table X-X. The parcels were then reviewed for any environmental site constraints that may exist such as Federal or State wetlands, steep slopes (greater than 15 percent), or other conditions. These constraints were then removed from the developable parcels acreage, which yielded a much smaller amount, especially in the Town of Seneca Falls. In addition, to account for improvements such as roadways, driveways, sidewalks, and other infrastructure, 20 percent was also subtracted from the total developable acreage prior to calculating the development potential. Zoning regulations from each municipality was then reviewed to determine the permitted density that was allowed.

Potential Developable Parcels

Municipality	Agricultural		Vacant	
	No. Parcels	Total Acreage	No. Parcels	Total Acreage
Town of Tyre	5	261	13	125
Town of Waterloo	4	304	74	173
Town of Seneca Falls	14	965	49	520
Village of Seneca Falls	1	23	56	64
Village of Waterloo	0	0	59	17
TOTAL	24	1,553	251	899

Residential development potential was determined based upon the number of lots that can be subdivided in residential and agricultural districts. The result is given in the number of units (lots) that could be developed. Parcels located in commercial, business, manufacturing, industrial, or mixed use districts were analyzed based upon the potential square footage of building space that could be developed. An industry standard of 10,000 square feet of building space per acre was utilized to show potential build-out.

In some instances, zoning districts permitted multiple uses, including both commercial and residential uses. For these cases, both the maximum square footage of commercial space and number of residential units were calculated and considered in the final build-out estimation. In addition, some of the various zoning districts included variables that may change the number of lots to be subdivided, such as whether the lot has a sewer or water connection or the amount of dwelling units (single-, two-, three-, multiple-family). A range was calculated for the build-out showing these variables and shown in the tables.

The tables on the following page highlight the development potential for full build-out for each municipality in each zoning district. For residential and agricultural districts, the number of potential units or lots is shown (Units). Commercial, industrial, business, and other similar districts are shown as the potential square footage for new buildings (SF).

Build Out Analysis

Town of Tyre Development Potential

District	Acreage*	Potential Development
Business (B)	53.0	530,400 SF
Residential (R)	22.4	22 units
Agricultural (A)	221.8	222 units
TOTAL	297.3 acres	244 units/530,400 SF

Town of Waterloo Development Potential

District	Acreage*	Potential Development
Moderate-Density Residential (R2)	12.5	12-109 units [1]
Multiple Use (MU)	43.8	477 units/438,400 SF [2]
Low-Density Residential (R1)	27.4	27-40 units [1]
Agricultural (A)	198.0	198-287 units [1]
Commercial (C)	100.0	1,087 units/998,400 SF [2]
TOTAL	381.5 acres	1,801-2,000 units/1,436,500 SF

Town of Seneca Falls Development Potential

District	Acreage*	Potential Development
Industrial (M1)	107.2	1,072,000 SF
Refuse Disposal (M2)	82.2	822,400 SF
Flood Plain (FP)	27.1	271,200 SF
Highway Commercial (C2)	189.3	1,892,800 SF
Agricultural (A1)	537.3	358-780 units [1]
Agricultural (A2)	93.1	62-135 units [1]
Land Conservation (LC)	5.0	N/A [3]
Residential (R1)	47.9	70-139 units [1]
TOTAL	899.7 acres	491-1,055 units/4,058,400 SF

Village of Seneca Falls Development Potential

District	Acreage*	Potential Development
Highway Commercial (C2)	2.40	24,000 SF
Industrial (M1)	43.84	438,400 SF
Two-Family Residential (R2)	1.92	17 units
One-Family Residential (R1)	20.24	105 units
Local Retail (C1)	0.96	9,600 SF
Land Conservation (LC)	0.56	N/A [3]
TOTAL	69.92 acres	123 units/472,000 SF

Village of Waterloo Development Potential

District	Acreage*	Potential Development
Residential (R3)	2.00	22 units
Service (SD)	1.36	13,600 SF
Residential (R2)	5.76	42 units
Residential (R1)	0.48	3 units
General Business (GB)	1.36	13,600 SF
Central Business (CB)	1.44	14,400 SF
TOTAL	12.40 acres	67 units/41,600 SF

***Total acreage = potential developable lands - sensitive environmental features - 20% reduction for improvements (roads, driveways, etc.)**

[1] Unit range due to a development variable such as number of dwelling units or if sewer/water is available.

[2] In the Multiple Use and Commercial Districts, limited housing is permitted.

[3] For the land conservation districts, limited uses are permitted and a require special permit and site plan review by the municipality.

The table below summarizes the total development potential in each of the communities in the corridor to give a greater indication of the overall development that is possible. The Towns of Seneca Falls and Waterloo, with the greater amounts of agricultural and vacant lands available, have the highest potential for development, especially commercial uses.

Summary of Development Potential

Municipality	Acreage*	Commercial SF	Residential Lots
Town of Tyre	297.30	530,400	244
Town of Waterloo	381.50	1,436,500	1,801-2,000 [1]
Town of Seneca Falls	899.70	4,058,400	491-1,055 [1]
Village of Seneca Falls	69.92	472,000	123
Village of Waterloo	12.40	41,600	67
TOTAL	1,660.82 acres	6,538,900 SF	2,726-3,489 units

***Total acreage = potential developable lands - sensitive environmental features and 20% reduction for improvements (roads, driveways, etc.)**

[1] Unit range due to a development variable such as number of dwelling units or if sewer/water is available.

Both of the Towns utilize strip-style commercial zoning, which could eventually transform the Routes 5 & 20/414 corridor from a rural corridor into a commercial corridor. The Town and Village of Seneca Falls' Comprehensive Plan recommends a review of the existing zoning code, especially along the corridor to "encourage appropriate commercial growth" and that that growth does not compete with businesses in the Village. In addition, based upon this analysis, the Town should also determine the extent of the commercial district and consider developing nodal-style commercial zoning. The Town of Waterloo should follow this same approach in invigorate the Village and maintain the rural character of Route 5 & 20.

Appendix C
Supplemental Traffic Data

Accident History Summaries - Octboer 2005 through September 2008

Route 414 @ Route 318

Accident #	Date	Type	# Cars	Severity	Direction	Pavement Conditions	Contributing Factors
1	10/7/2005	Left Turn	2	PDO	SB Left / NB Through	Wet	Failure to Yeild ROW
2	12/10/2005	Left Turn	2	INJ	EB Left / WB Through	Dry	Failure to Yeild ROW
3	5/15/2006	Rearend	2	PDO	Eastbound	Wet	Unsafe Speed
4	5/21/2006	Rearend	2	PDO	Eastbound	Wet	
5	6/12/2006	Right Angle	2	PDO	Westbound / Southbound	Dry	Disregarded Signal
6	8/20/2006	Left Turn	2	INJ	NB Left / Westbound	Dry	Failure to Yeild ROW
7	9/4/2006	Right Angle	2	INJ	Southbound / Westbound	Dry	Driver Inexperience
8	11/24/2006	Left Turn	2	PDO	NB Left / SB Through	Dry	Failure to Yeild ROW
9	1/6/2007	Left Turn	2	PDO	EB Left / WB Through	Dry	Failure to Yeild ROW
10	2/10/2007	Left Turn	2	INJ	EB Left / NB Through	Dry	Failure to Yeild ROW
11	9/5/2007	Right Angle	2	INJ	Southbound / Westbound	Dry	Driver Inattention
12	11/25/2007	Rearend	2	PDO	Eastbound	Dry	Following Too Closely
13	7/1/2008	Non Reportable					
14	9/12/2008	Rearend	2	PDO	Westbound	Wet	Animal

Route 414 @ Balsey Road

Accident #	Date	Type	# Cars	Severity	Direction	Pavement Conditions	Contributing Factors
1	1/30/2005	Rearend	2	PDO	Eastbound	Dry	Following Too Closely
2	12/6/2006	Rearend	2	PDO	Eastbound	Dry	Following Too Closely
3	1/16/2007	Right Angle	2	PDO	Eastbound / Southbound	Icy	Unsafe Speed
4	7/10/2007	Right Angle	2	INJ	Eastbound / Northbound	Dry	Disregarded Signal
5	10/13/2007	Right Angle	2	INJ	Eastbound / Northbound	Dry	Disregarded Signal

Route 414 @ Route 5 / 20 - West End of Overlap

Accident #	Date	Type	# Cars	Severity	Direction	Pavement Conditions	Contributing Factors
1	6/13/2006	Right Angle	2	PDO	Southbound / Eastbound	Dry	Disregarded Signal
2	11/6/2006	Left Turn	2	INJ	SB Left / EB Through	Dry	Failure to Yeild ROW
3	1/19/2007	Rearend	2	PDO	Southbound	Wet	Following Too Closely
4	1/26/2007	Left Turn	2	PDO	NB Left / WB Through	Icy	
5	3/30/2007	Left Turn	2	PDO	NB Left / WB Through	Wet	Failure to Yeild ROW
6	2/29/2008	Left Turn	2	PDO	SB Left / WB Through	Wet	Failure to Yeild ROW
7	3/5/2008	Left Turn	2	INJ	NB Left / EB Through	Dry	Failure to Yeild ROW

Route 414 @ Route 5 / 20 - East End of Overlap

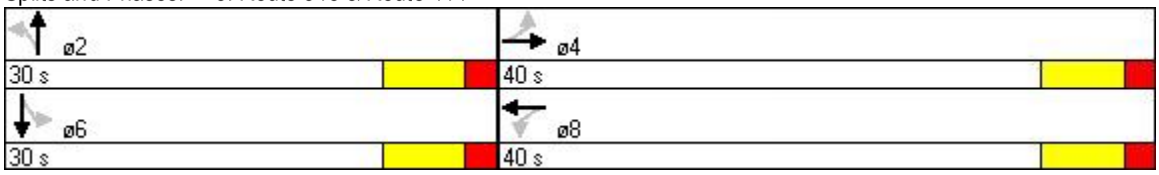
Accident #	Date	Type	# Cars	Severity	Direction	Pavement Conditions	Contributing Factors
1	12/29/2006	Rearend	2	PDO	Westbound	Dry	
2	5/18/2007	Pedestrian	1	INJ	NB Left Turn	Dry	Driver Inattention
3	6/1/2007	Rearend	2	PDO	Eastbound	Dry	Driver Inattention
4	8/24/2007	Rearend	2	INJ	Westbound	Dry	Brakes Failed

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	84	164	48	38	150	120	56	204	45	121	133	73
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	415		0	425		0	410		0	260		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.966			0.933			0.973			0.947	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1687	1715	0	1671	1641	0	1612	1651	0	1671	1666	0
Flt Permitted	0.566			0.607			0.615			0.545		
Satd. Flow (perm)	1005	1715	0	1068	1641	0	1043	1651	0	959	1666	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		28			78			17			42	
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		1770			1790			1300			1250	
Travel Time (s)		21.9			22.2			16.1			15.5	
Peak Hour Factor	0.87	0.87	0.87	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	7%	7%	7%	8%	8%	8%	12%	12%	12%	8%	8%	8%
Adj. Flow (vph)	97	189	55	43	169	135	63	229	51	136	149	82
Shared Lane Traffic (%)												
Lane Group Flow (vph)	97	244	0	43	304	0	63	280	0	136	231	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	23.0	23.0		23.0	23.0		23.0	23.0		23.0	23.0	
Total Split (s)	40.0	40.0	0.0	40.0	40.0	0.0	30.0	30.0	0.0	30.0	30.0	0.0
Total Split (%)	57.1%	57.1%	0.0%	57.1%	57.1%	0.0%	42.9%	42.9%	0.0%	42.9%	42.9%	0.0%
Maximum Green (s)	33.0	33.0		33.0	33.0		23.0	23.0		23.0	23.0	
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	4.0	7.0	7.0	4.0	7.0	7.0	4.0	7.0	7.0	4.0
Lead/Lag												
Lead-Lag Optimize?												
Act Effct Green (s)	33.0	33.0		33.0	33.0		23.0	23.0		23.0	23.0	
Actuated g/C Ratio	0.47	0.47		0.47	0.47		0.33	0.33		0.33	0.33	
v/c Ratio	0.20	0.30		0.09	0.37		0.18	0.51		0.43	0.40	
Control Delay	12.3	11.2		10.8	10.2		18.6	21.6		23.7	17.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	12.3	11.2		10.8	10.2		18.6	21.6		23.7	17.2	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	B	B		B	B		B	C		C	B	
Approach Delay		11.5			10.3			21.0			19.6	
Approach LOS		B			B			C			B	

Intersection Summary
Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 70
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 50
Control Type: Pretimed
Maximum v/c Ratio: 0.51
Intersection Signal Delay: 15.7 Intersection LOS: B
Intersection Capacity Utilization 63.4% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 3: Route 318 & Route 414

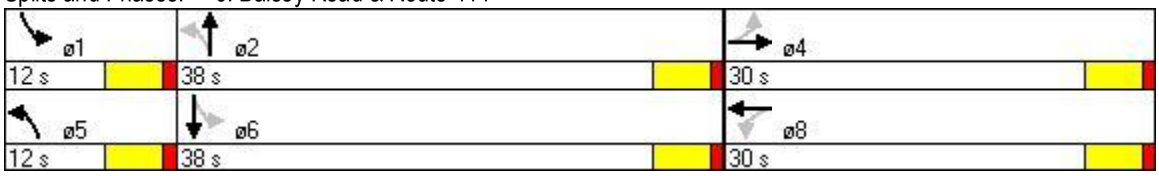


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	51	165	157	35	128	40	148	317	35	35	283	59
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	12	12	12	12	12	12	12	12	13	12
Storage Length (ft)	215		0	170		0	340		0	425		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.927			0.965			0.985			0.974	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1525	1488	0	1577	1602	0	1577	1567	0	1577	1606	0
Flt Permitted	0.640			0.409			0.354			0.489		
Satd. Flow (perm)	1027	1488	0	679	1602	0	588	1567	0	812	1606	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		62			20			8			16	
Link Speed (mph)		40			40			45			45	
Link Distance (ft)		2048			3086			1840			2156	
Travel Time (s)		34.9			52.6			27.9			32.7	
Peak Hour Factor	0.95	0.95	0.95	0.25	0.90	0.90	0.91	0.91	0.91	0.88	0.88	0.88
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	8%	3%	3%	8%	3%
Adj. Flow (vph)	54	174	165	140	142	44	163	348	38	40	322	67
Shared Lane Traffic (%)												
Lane Group Flow (vph)	54	339	0	140	186	0	163	386	0	40	389	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.19	1.19	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.10	1.14
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm			Perm			pm+pt			pm+pt		
Protected Phases		4			8		5	2		1	6	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		2.0	10.0		2.0	10.0	
Minimum Split (s)	11.0	11.0		11.0	11.0		8.0	15.0		8.0	15.0	
Total Split (s)	30.0	30.0	0.0	30.0	30.0	0.0	12.0	38.0	0.0	12.0	38.0	0.0
Total Split (%)	37.5%	37.5%	0.0%	37.5%	37.5%	0.0%	15.0%	47.5%	0.0%	15.0%	47.5%	0.0%
Maximum Green (s)	25.0	25.0		25.0	25.0		7.0	33.0		7.0	33.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0	4.0
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Min		None	Min	
Act Effct Green (s)	18.6	18.6		18.6	18.6		27.8	25.6		25.3	20.6	
Actuated g/C Ratio	0.31	0.31		0.31	0.31		0.47	0.43		0.43	0.35	
v/c Ratio	0.17	0.66		0.66	0.36		0.40	0.57		0.09	0.68	
Control Delay	19.2	23.5		38.3	18.6		11.9	18.5		8.7	24.4	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	19.2	23.5		38.3	18.6		11.9	18.5		8.7	24.4	
LOS	B	C		D	B		B	B		A	C	
Approach Delay		23.0			27.1			16.5			22.9	
Approach LOS		C			C			B			C	

Intersection Summary
Area Type: CBD
Cycle Length: 80
Actuated Cycle Length: 59.2
Natural Cycle: 55
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.68
Intersection Signal Delay: 21.6 Intersection LOS: C
Intersection Capacity Utilization 71.6% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 6: Balsey Road & Route 414

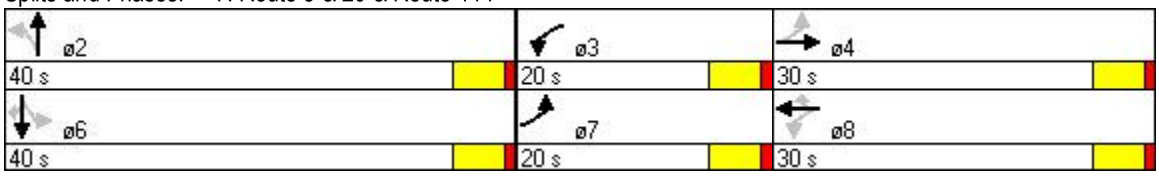


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	354	378	134	82	374	242	132	229	72	218	226	346
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	11	12	12	13	12	12	12	12
Storage Length (ft)	230		0	250		400	0		0	0		400
Storage Lanes	1		0	1		1	0		0	0		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.961				0.850		0.978				0.850
Flt Protected	0.950			0.950				0.985			0.976	
Satd. Flow (prot)	1752	3368	0	1752	3388	1568	0	1854	0	0	1717	1495
Flt Permitted	0.303			0.438				0.471			0.583	
Satd. Flow (perm)	559	3368	0	808	3388	1568	0	887	0	0	1026	1495
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		55				269		13				384
Link Speed (mph)		40			40			30			45	
Link Distance (ft)		2263			2988			644			1840	
Travel Time (s)		38.6			50.9			14.6			27.9	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	8%	8%	8%
Adj. Flow (vph)	393	420	149	91	416	269	147	254	80	242	251	384
Shared Lane Traffic (%)												
Lane Group Flow (vph)	393	569	0	91	416	269	0	481	0	0	493	384
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.04	1.00	1.00	0.96	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt			pm+pt		Perm	Perm			Perm		Perm
Protected Phases	7	4		3	8			2			6	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8		8	2			6		6
Detector Phase	7	4		3	8	8	2	2		6	6	6
Switch Phase												
Minimum Initial (s)	3.0	10.0		3.0	10.0	10.0	6.0	6.0		6.0	6.0	6.0
Minimum Split (s)	8.0	15.0		8.0	15.0	15.0	11.0	11.0		11.0	11.0	11.0
Total Split (s)	20.0	30.0	0.0	20.0	30.0	30.0	40.0	40.0	0.0	40.0	40.0	40.0
Total Split (%)	22.2%	33.3%	0.0%	22.2%	33.3%	33.3%	44.4%	44.4%	0.0%	44.4%	44.4%	44.4%
Maximum Green (s)	15.0	25.0		15.0	25.0	25.0	35.0	35.0		35.0	35.0	35.0
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	4.0	5.0	5.0	5.0	5.0	5.0	4.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	None	Min		None	Min	Min	None	None		None	None	None
Act Effct Green (s)	36.2	25.7		24.1	16.2	16.2		35.1			35.1	35.1
Actuated g/C Ratio	0.44	0.32		0.30	0.20	0.20		0.43			0.43	0.43
v/c Ratio	0.84	0.52		0.27	0.62	0.51		1.23			1.12	0.44
Control Delay	34.2	23.3		15.9	33.7	7.3		151.0			104.2	3.7
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0			0.0	0.0
Total Delay	34.2	23.3		15.9	33.7	7.3		151.0			104.2	3.7
LOS	C	C		B	C	A		F			F	A
Approach Delay		27.7			22.5			151.0			60.2	
Approach LOS		C			C			F			E	

Intersection Summary
Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 81.4
Natural Cycle: 70
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.23
Intersection Signal Delay: 54.8 Intersection LOS: D
Intersection Capacity Utilization 94.3% ICU Level of Service F
Analysis Period (min) 15

Splits and Phases: 7: Route 5 & 20 & Route 414

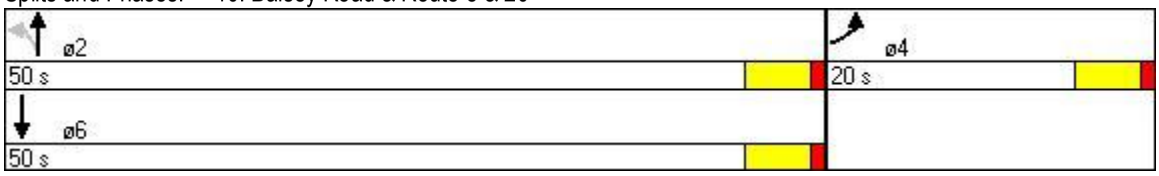


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	270	28	30	502	534	195
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	12	12	12	12	12
Storage Length (ft)	0	0	250			0
Storage Lanes	1	0	1			0
Taper Length (ft)	25	25	25			25
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Frt	0.987				0.960	
Flt Protected	0.957		0.950			
Satd. Flow (prot)	1684	0	1752	3505	3365	0
Flt Permitted	0.957		0.276			
Satd. Flow (perm)	1684	0	509	3505	3365	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	7				149	
Link Speed (mph)	40			40	40	
Link Distance (ft)	3086			2988	2562	
Travel Time (s)	52.6			50.9	43.7	
Peak Hour Factor	0.81	0.81	0.94	0.94	0.89	0.89
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	333	35	32	534	600	219
Shared Lane Traffic (%)						
Lane Group Flow (vph)	368	0	32	534	819	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	23			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.04	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Number of Detectors	1		1	2	2	
Detector Template	Left		Left	Thru	Thru	
Leading Detector (ft)	20		20	100	100	
Trailing Detector (ft)	0		0	0	0	
Detector 1 Position(ft)	0		0	0	0	
Detector 1 Size(ft)	20		20	6	6	
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	
Detector 2 Position(ft)				94	94	
Detector 2 Size(ft)				6	6	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type			Perm			
Protected Phases	4			2	6	

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Permitted Phases			2			
Detector Phase	4		2	2	6	
Switch Phase						
Minimum Initial (s)	6.0		10.0	10.0	10.0	
Minimum Split (s)	11.0		15.0	15.0	15.0	
Total Split (s)	20.0	0.0	50.0	50.0	50.0	0.0
Total Split (%)	28.6%	0.0%	71.4%	71.4%	71.4%	0.0%
Maximum Green (s)	15.0		45.0	45.0	45.0	
Yellow Time (s)	4.0		4.0	4.0	4.0	
All-Red Time (s)	1.0		1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	4.0	5.0	5.0	5.0	4.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Recall Mode	None		Min	Min	Min	
Act Effct Green (s)	15.1		14.9	14.9	14.9	
Actuated g/C Ratio	0.38		0.37	0.37	0.37	
v/c Ratio	0.57		0.17	0.41	0.61	
Control Delay	15.8		10.3	10.1	10.2	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	15.8		10.3	10.1	10.2	
LOS	B		B	B	B	
Approach Delay	15.8			10.1	10.2	
Approach LOS	B			B	B	

Intersection Summary
Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 40.1
Natural Cycle: 40
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.61
Intersection Signal Delay: 11.3 Intersection LOS: B
Intersection Capacity Utilization 49.9% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 10: Balsey Road & Route 5 & 20

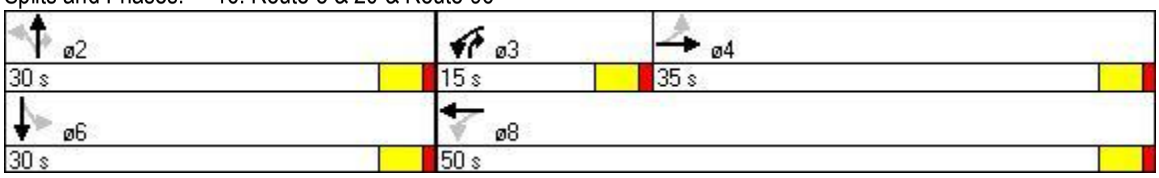


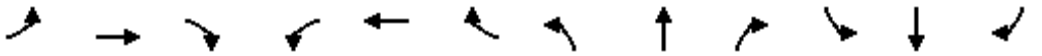
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	55	641	106	148	575	110	61	148	141	112	203	62
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	11	12	12	11	12	12	11	12	12	12	12
Storage Length (ft)	0		0	0		0	0		175	0		0
Storage Lanes	0		0	0		0	0		1	0		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.980			0.980				0.850		0.978	
Flt Protected		0.997			0.991			0.986			0.985	
Satd. Flow (prot)	0	3310	0	0	3290	0	0	1775	1583	0	1794	0
Flt Permitted		0.831			0.563			0.786			0.773	
Satd. Flow (perm)	0	2759	0	0	1869	0	0	1415	1583	0	1408	0
Right Turn on Red			Yes			Yes			No			No
Satd. Flow (RTOR)		25			36							
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1220			1180			1200			1190	
Travel Time (s)		27.7			26.8			27.3			27.0	
Peak Hour Factor	0.86	0.86	0.86	0.96	0.96	0.96	0.91	0.91	0.91	0.90	0.90	0.90
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	64	745	123	154	599	115	67	163	155	124	226	69
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	932	0	0	868	0	0	230	155	0	419	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.04	1.00	1.00	1.04	1.00	1.00	1.04	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100	20	20	100	
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	
Detector 1 Size(ft)	20	6		20	6		20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm			pm+pt			Perm		pm+ov	Perm		
Protected Phases		4		3	8			2	3		6	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2		2	6		
Detector Phase	4	4		3	8		2	2	3	6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		3.0	10.0		6.0	6.0	3.0	6.0	6.0	
Minimum Split (s)	14.0	14.0		7.0	14.0		10.0	10.0	7.0	10.0	10.0	
Total Split (s)	35.0	35.0	0.0	15.0	50.0	0.0	30.0	30.0	15.0	30.0	30.0	0.0
Total Split (%)	43.8%	43.8%	0.0%	18.8%	62.5%	0.0%	37.5%	37.5%	18.8%	37.5%	37.5%	0.0%
Maximum Green (s)	31.0	31.0		11.0	46.0		26.0	26.0	11.0	26.0	26.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lag	Lag		Lead					Lead			
Lead-Lag Optimize?	Yes	Yes		Yes					Yes			
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	Min	Min		None	Min		None	None	None	None	None	
Act Effct Green (s)		30.7			40.7			25.5	35.4		25.5	
Actuated g/C Ratio		0.41			0.55			0.34	0.48		0.34	
v/c Ratio		0.81			0.75			0.47	0.21		0.87	
Control Delay		24.9			15.6			24.3	13.3		44.8	
Queue Delay		0.0			0.0			0.0	0.0		0.0	
Total Delay		24.9			15.6			24.3	13.3		44.8	
LOS		C			B			C	B		D	
Approach Delay		24.9			15.6			19.8			44.8	
Approach LOS		C			B			B			D	

Intersection Summary
Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 74.2
Natural Cycle: 55
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.87
Intersection Signal Delay: 24.3 Intersection LOS: C
Intersection Capacity Utilization 91.5% ICU Level of Service F
Analysis Period (min) 15

Splits and Phases: 16: Route 5 & 20 & Route 96



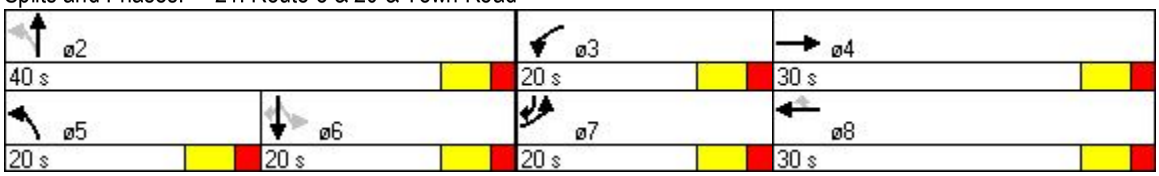


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	116	499	0	133	458	89	255	100	0	83	114	131
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	460		0	387		375	310		0	300		300
Storage Lanes	1		0	1		1	1		0	1		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt						0.850						0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1752	3505	0	1752	3505	1568	1736	1827	0	1770	1863	1583
Flt Permitted	0.950			0.950			0.433			0.685		
Satd. Flow (perm)	1752	3505	0	1752	3505	1568	791	1827	0	1276	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						97						141
Link Speed (mph)		45			45			50			35	
Link Distance (ft)		1300			1460			1330			1480	
Travel Time (s)		19.7			22.1			18.1			28.8	
Peak Hour Factor	0.94	0.94	0.94	0.92	0.92	0.92	0.90	0.90	0.90	0.93	0.93	0.93
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	4%	4%	4%	2%	2%	2%
Adj. Flow (vph)	123	531	0	145	498	97	283	111	0	89	123	141
Shared Lane Traffic (%)												
Lane Group Flow (vph)	123	531	0	145	498	97	283	111	0	89	123	141
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot			Prot		Perm	pm+pt			Perm		pm+ov
Protected Phases	7	4		3	8		5	2			6	7
Permitted Phases						8	2			6		6

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4		3	8	8	5	2		6	6	7
Switch Phase												
Minimum Initial (s)	3.0	10.0		3.0	10.0	10.0	3.0	6.0		6.0	6.0	3.0
Minimum Split (s)	9.0	16.0		9.0	16.0	16.0	9.0	12.0		12.0	12.0	9.0
Total Split (s)	20.0	30.0	0.0	20.0	30.0	30.0	20.0	40.0	0.0	20.0	20.0	20.0
Total Split (%)	22.2%	33.3%	0.0%	22.2%	33.3%	33.3%	22.2%	44.4%	0.0%	22.2%	22.2%	22.2%
Maximum Green (s)	14.0	24.0		14.0	24.0	24.0	14.0	34.0		14.0	14.0	14.0
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	4.0	6.0	6.0	6.0	6.0	6.0	4.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead			Lag	Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes			Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	None	Min		None	Min	Min	None	None		None	None	None
Act Effct Green (s)	10.5	17.1		11.1	17.7	17.7	30.0	30.0		10.5	10.5	27.1
Actuated g/C Ratio	0.14	0.22		0.14	0.23	0.23	0.39	0.39		0.14	0.14	0.35
v/c Ratio	0.51	0.68		0.57	0.61	0.22	0.60	0.16		0.51	0.48	0.22
Control Delay	40.9	32.6		42.1	30.6	7.3	24.3	17.5		44.0	39.5	4.4
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	40.9	32.6		42.1	30.6	7.3	24.3	17.5		44.0	39.5	4.4
LOS	D	C		D	C	A	C	B		D	D	A
Approach Delay		34.2			29.8			22.4			26.6	
Approach LOS		C			C			C			C	

Intersection Summary
Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 76.6
Natural Cycle: 55
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.68
Intersection Signal Delay: 29.2 Intersection LOS: C
Intersection Capacity Utilization 57.0% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 21: Route 5 & 20 & Town Road

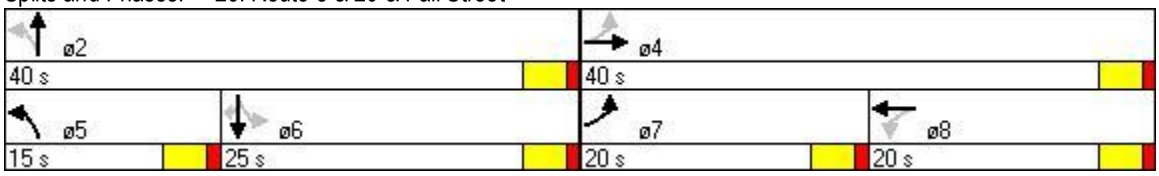


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	230	19	178	19	13	3	143	209	7	0	181	207
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	13	13	12	12	11	12
Storage Length (ft)	325		0	0		0	0		0	0		193
Storage Lanes	1		0	0		0	1		0	0		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00
Frt		0.864			0.996			0.995				0.850
Flt Protected	0.950				0.961		0.950					
Satd. Flow (prot)	1752	1594	0	0	1766	0	1829	1915	0	0	3421	1583
Flt Permitted	0.757				0.635		0.538					
Satd. Flow (perm)	1396	1594	0	0	1167	0	1036	1915	0	0	3421	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		187			2			3				225
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1115			1185			1420			1460	
Travel Time (s)		25.3			26.9			32.3			33.2	
Peak Hour Factor	0.95	0.95	0.95	0.25	0.88	0.88	0.85	0.85	0.85	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	242	20	187	76	15	3	168	246	8	0	197	225
Shared Lane Traffic (%)												
Lane Group Flow (vph)	242	207	0	0	94	0	168	254	0	0	197	225
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			13			13	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.96	0.96	1.00	1.00	1.04	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100		20	100		20	100	20
Trailing Detector (ft)	0	0		0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt			Perm			pm+pt			Perm		Perm
Protected Phases	7	4			8		5	2			6	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2			6		6
Detector Phase	7	4		8	8		5	2		6	6	6
Switch Phase												
Minimum Initial (s)	3.0	6.0		6.0	6.0		3.0	6.0		6.0	6.0	6.0
Minimum Split (s)	7.0	10.0		10.0	10.0		7.0	10.0		10.0	10.0	10.0
Total Split (s)	20.0	40.0	0.0	20.0	20.0	0.0	15.0	40.0	0.0	25.0	25.0	25.0
Total Split (%)	25.0%	50.0%	0.0%	25.0%	25.0%	0.0%	18.8%	50.0%	0.0%	31.3%	31.3%	31.3%
Maximum Green (s)	16.0	36.0		16.0	16.0		11.0	36.0		21.0	21.0	21.0
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead			Lag	Lag		Lead			Lag	Lag	Lag
Lead-Lag Optimize?	Yes			Yes	Yes		Yes			Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None		None	None		None	Max		Max	Max	Max
Act Effct Green (s)	25.5	25.5			10.6		36.8	36.8			23.9	23.9
Actuated g/C Ratio	0.36	0.36			0.15		0.52	0.52			0.34	0.34
v/c Ratio	0.42	0.30			0.53		0.26	0.25			0.17	0.33
Control Delay	17.8	4.2			39.9		12.8	12.4			20.4	5.1
Queue Delay	0.0	0.0			0.0		0.0	0.0			0.0	0.0
Total Delay	17.8	4.2			39.9		12.8	12.4			20.4	5.1
LOS	B	A			D		B	B			C	A
Approach Delay		11.6			39.9			12.6			12.3	
Approach LOS		B			D			B			B	

Intersection Summary
Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 70.5
Natural Cycle: 40
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.53
Intersection Signal Delay: 14.0 Intersection LOS: B
Intersection Capacity Utilization 45.8% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 26: Route 5 & 20 & Fall Street



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	2	215	225	252	279	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0			240	0	0
Storage Lanes	0			1	1	0
Taper Length (ft)	25			25	25	25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt				0.850	0.995	
Flt Protected					0.954	
Satd. Flow (prot)	0	1810	1810	1538	1718	0
Flt Permitted					0.954	
Satd. Flow (perm)	0	1810	1810	1538	1718	0
Link Speed (mph)		55	55		55	
Link Distance (ft)		1410	450		1090	
Travel Time (s)		17.5	5.6		13.5	
Peak Hour Factor	0.83	0.83	0.87	0.87	0.85	0.85
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	2	259	259	290	328	13
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	261	259	290	341	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary
Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 35.7% ICU Level of Service A
Analysis Period (min) 15

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	2	215	225	252	279	11
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.83	0.83	0.87	0.87	0.85	0.85
Hourly flow rate (vph)	2	259	259	290	328	13
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)			450			
pX, platoon unblocked						
vC, conflicting volume	548				522	259
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	548				522	259
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				35	98
cM capacity (veh/h)	1006				508	773

Direction, Lane #	EB 1	WB 1	WB 2	SB 1
Volume Total	261	259	290	341
Volume Left	2	0	0	328
Volume Right	0	0	290	13
cSH	1006	1700	1700	515
Volume to Capacity	0.00	0.15	0.17	0.66
Queue Length 95th (ft)	0	0	0	121
Control Delay (s)	0.1	0.0	0.0	24.7
Lane LOS	A			C
Approach Delay (s)	0.1	0.0		24.7
Approach LOS				C

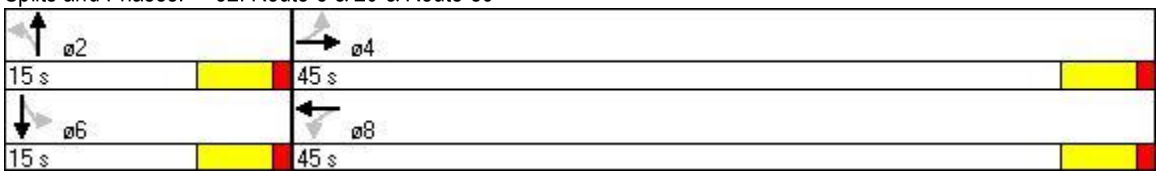
Intersection Summary			
Average Delay	7.3		
Intersection Capacity Utilization	35.7%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	53	418	23	35	400	37	14	17	27	40	13	63
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.994			0.989			0.937			0.927	
Flt Protected		0.995			0.996			0.988			0.983	
Satd. Flow (prot)	0	1790	0	0	1782	0	0	1708	0	0	1681	0
Flt Permitted		0.909			0.938			0.908			0.870	
Satd. Flow (perm)	0	1635	0	0	1679	0	0	1569	0	0	1488	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		9			15			33			76	
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		450			1320			1240			1200	
Travel Time (s)		5.6			16.4			15.4			14.9	
Peak Hour Factor	0.95	0.95	0.95	0.89	0.89	0.89	0.81	0.81	0.81	0.83	0.83	0.83
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	56	440	24	39	449	42	17	21	33	48	16	76
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	520	0	0	530	0	0	71	0	0	140	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		6.0	6.0		6.0	6.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	15.0	15.0		15.0	15.0		11.0	11.0		11.0	11.0	
Total Split (s)	45.0	45.0	0.0	45.0	45.0	0.0	15.0	15.0	0.0	15.0	15.0	0.0
Total Split (%)	75.0%	75.0%	0.0%	75.0%	75.0%	0.0%	25.0%	25.0%	0.0%	25.0%	25.0%	0.0%
Maximum Green (s)	40.0	40.0		40.0	40.0		10.0	10.0		10.0	10.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0	4.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Max	Max		Max	Max	
Act Effct Green (s)		16.4			16.4			10.2			10.2	
Actuated g/C Ratio		0.45			0.45			0.28			0.28	
v/c Ratio		0.71			0.70			0.15			0.30	
Control Delay		13.8			13.2			9.4			9.3	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		13.8			13.2			9.4			9.3	
LOS		B			B			A			A	
Approach Delay		13.8			13.2			9.4			9.3	
Approach LOS		B			B			A			A	

Intersection Summary
Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 36.8
Natural Cycle: 40
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.71
Intersection Signal Delay: 12.8 Intersection LOS: B
Intersection Capacity Utilization 57.1% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 32: Route 5 & 20 & Route 89



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	69	149	64	36	178	112	141	149	37	197	191	184
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	415		0	425		0	410		0	260		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.955			0.942			0.970			0.926	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1752	1762	0	1770	1755	0	1736	1772	0	1770	1725	0
Flt Permitted	0.469			0.600			0.448			0.632		
Satd. Flow (perm)	865	1762	0	1118	1755	0	818	1772	0	1177	1725	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		33			48			24			94	
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		1770			1790			1300			1250	
Travel Time (s)		21.9			22.2			16.1			15.5	
Peak Hour Factor	0.88	0.88	0.88	0.25	0.87	0.87	0.93	0.93	0.93	0.89	0.89	0.89
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	4%	4%	4%	2%	2%	2%
Adj. Flow (vph)	78	169	73	144	205	129	152	160	40	221	215	207
Shared Lane Traffic (%)												
Lane Group Flow (vph)	78	242	0	144	334	0	152	200	0	221	422	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	23.0	23.0		23.0	23.0		23.0	23.0		23.0	23.0	
Total Split (s)	30.0	30.0	0.0	30.0	30.0	0.0	40.0	40.0	0.0	40.0	40.0	0.0
Total Split (%)	42.9%	42.9%	0.0%	42.9%	42.9%	0.0%	57.1%	57.1%	0.0%	57.1%	57.1%	0.0%
Maximum Green (s)	23.0	23.0		23.0	23.0		33.0	33.0		33.0	33.0	
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	4.0	7.0	7.0	4.0	7.0	7.0	4.0	7.0	7.0	4.0
Lead/Lag												
Lead-Lag Optimize?												
Act Effct Green (s)	23.0	23.0		23.0	23.0		33.0	33.0		33.0	33.0	
Actuated g/C Ratio	0.33	0.33		0.33	0.33		0.47	0.47		0.47	0.47	
v/c Ratio	0.27	0.40		0.39	0.55		0.39	0.24		0.40	0.49	
Control Delay	20.6	18.0		22.1	20.4		15.9	10.5		14.8	12.0	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	20.6	18.0		22.1	20.4		15.9	10.5		14.8	12.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	C	B		C	C		B	B		B	B	
Approach Delay		18.7			20.9			12.8			12.9	
Approach LOS		B			C			B			B	

Intersection Summary
Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 70
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 50
Control Type: Pretimed
Maximum v/c Ratio: 0.55
Intersection Signal Delay: 16.1 Intersection LOS: B
Intersection Capacity Utilization 72.5% ICU Level of Service C
Analysis Period (min) 15

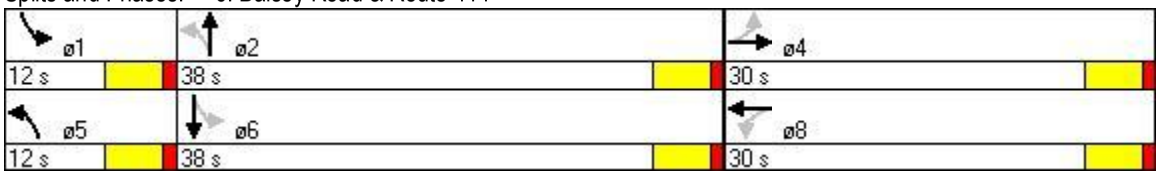
Splits and Phases: 3: Route 318 & Route 414

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	41	130	132	21	130	41	131	258	21	27	274	54
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	12	12	12	12	12	12	12	12	13	12
Storage Length (ft)	215		0	170		0	340		0	425		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.924			0.964			0.989			0.975	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1540	1497	0	1593	1616	0	1593	1643	0	1593	1675	0
Flt Permitted	0.638			0.474			0.379			0.572		
Satd. Flow (perm)	1034	1497	0	795	1616	0	635	1643	0	959	1675	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		67			21			6			15	
Link Speed (mph)		40			40			45			45	
Link Distance (ft)		2048			3086			1840			2156	
Travel Time (s)		34.9			52.6			27.9			32.7	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	3%	2%	2%	3%	2%
Adj. Flow (vph)	46	144	147	23	144	46	146	287	23	30	304	60
Shared Lane Traffic (%)												
Lane Group Flow (vph)	46	291	0	23	190	0	146	310	0	30	364	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.19	1.19	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.10	1.14
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm			Perm			pm+pt			pm+pt		
Protected Phases		4			8		5	2		1	6	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		2.0	10.0		2.0	10.0	
Minimum Split (s)	11.0	11.0		11.0	11.0		8.0	15.0		8.0	15.0	
Total Split (s)	30.0	30.0	0.0	30.0	30.0	0.0	12.0	38.0	0.0	12.0	38.0	0.0
Total Split (%)	37.5%	37.5%	0.0%	37.5%	37.5%	0.0%	15.0%	47.5%	0.0%	15.0%	47.5%	0.0%
Maximum Green (s)	25.0	25.0		25.0	25.0		7.0	33.0		7.0	33.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0	4.0
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Min		None	Min	
Act Effct Green (s)	14.3	14.3		14.3	14.3		24.8	22.6		21.9	17.3	
Actuated g/C Ratio	0.28	0.28		0.28	0.28		0.48	0.44		0.42	0.33	
v/c Ratio	0.16	0.63		0.10	0.41		0.33	0.43		0.06	0.64	
Control Delay	18.0	20.7		17.7	18.3		9.6	14.8		7.7	21.4	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	18.0	20.7		17.7	18.3		9.6	14.8		7.7	21.4	
LOS	B	C		B	B		A	B		A	C	
Approach Delay		20.4			18.3			13.1			20.4	
Approach LOS		C			B			B			C	

Intersection Summary
Area Type: CBD
Cycle Length: 80
Actuated Cycle Length: 51.7
Natural Cycle: 50
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.64
Intersection Signal Delay: 17.7 Intersection LOS: B
Intersection Capacity Utilization 66.0% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 6: Balsey Road & Route 414

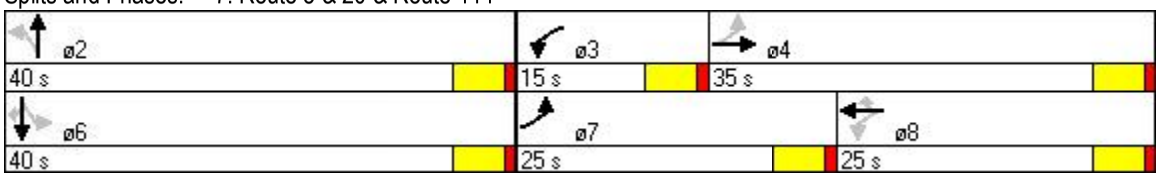


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	400	349	121	75	441	241	121	203	61	211	198	358
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	11	12	12	13	12	12	12	12
Storage Length (ft)	230		0	250		400	0		0	0		400
Storage Lanes	1		0	1		1	0		0	0		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.961				0.850		0.979				0.850
Flt Protected	0.950			0.950				0.985			0.975	
Satd. Flow (prot)	1752	3368	0	1752	3388	1568	0	1856	0	0	1799	1568
Flt Permitted	0.239			0.459				0.475			0.586	
Satd. Flow (perm)	441	3368	0	847	3388	1568	0	895	0	0	1081	1568
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		57				268		12				398
Link Speed (mph)		40			40			30			45	
Link Distance (ft)		2263			2988			644			1840	
Travel Time (s)		38.6			50.9			14.6			27.9	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	3%	3%	3%
Adj. Flow (vph)	444	388	134	83	490	268	134	226	68	234	220	398
Shared Lane Traffic (%)												
Lane Group Flow (vph)	444	522	0	83	490	268	0	428	0	0	454	398
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.04	1.00	1.00	0.96	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt			pm+pt		Perm	Perm			Perm		Perm
Protected Phases	7	4		3	8			2			6	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8		8	2			6		6
Detector Phase	7	4		3	8	8	2	2		6	6	6
Switch Phase												
Minimum Initial (s)	3.0	10.0		3.0	10.0	10.0	6.0	6.0		6.0	6.0	6.0
Minimum Split (s)	8.0	15.0		8.0	15.0	15.0	11.0	11.0		11.0	11.0	11.0
Total Split (s)	25.0	35.0	0.0	15.0	25.0	25.0	40.0	40.0	0.0	40.0	40.0	40.0
Total Split (%)	27.8%	38.9%	0.0%	16.7%	27.8%	27.8%	44.4%	44.4%	0.0%	44.4%	44.4%	44.4%
Maximum Green (s)	20.0	30.0		10.0	20.0	20.0	35.0	35.0		35.0	35.0	35.0
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	4.0	5.0	5.0	5.0	5.0	5.0	4.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	None	Min		None	Min	Min	None	None		None	None	None
Act Effct Green (s)	42.5	32.1		25.4	17.6	17.6		35.1			35.1	35.1
Actuated g/C Ratio	0.49	0.37		0.29	0.20	0.20		0.40			0.40	0.40
v/c Ratio	0.87	0.41		0.26	0.72	0.51		1.17			1.05	0.46
Control Delay	36.6	20.4		15.7	39.1	7.6		129.9			86.0	3.9
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0			0.0	0.0
Total Delay	36.6	20.4		15.7	39.1	7.6		129.9			86.0	3.9
LOS	D	C		B	D	A		F			F	A
Approach Delay		27.8			26.8			129.9			47.7	
Approach LOS		C			C			F			D	

Intersection Summary
Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 87.6
Natural Cycle: 70
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.17
Intersection Signal Delay: 47.2 Intersection LOS: D
Intersection Capacity Utilization 94.2% ICU Level of Service F
Analysis Period (min) 15

Splits and Phases: 7: Route 5 & 20 & Route 414

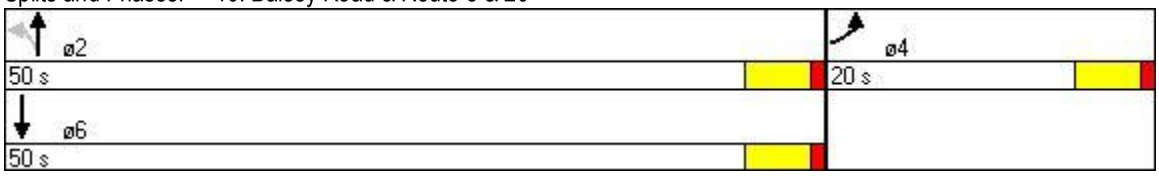


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	193	40	45	515	478	152
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	12	12	12	12	12
Storage Length (ft)	0	0	250			0
Storage Lanes	1	0	1			0
Taper Length (ft)	25	25	25			25
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Frt	0.977				0.964	
Flt Protected	0.960		0.950			
Satd. Flow (prot)	1672	0	1752	3505	3379	0
Flt Permitted	0.960		0.390			
Satd. Flow (perm)	1672	0	719	3505	3379	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	14				122	
Link Speed (mph)	40			40	40	
Link Distance (ft)	3086			2988	2562	
Travel Time (s)	52.6			50.9	43.7	
Peak Hour Factor	0.87	0.87	0.89	0.89	0.93	0.93
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	222	46	51	579	514	163
Shared Lane Traffic (%)						
Lane Group Flow (vph)	268	0	51	579	677	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	23			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.04	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Number of Detectors	1		1	2	2	
Detector Template	Left		Left	Thru	Thru	
Leading Detector (ft)	20		20	100	100	
Trailing Detector (ft)	0		0	0	0	
Detector 1 Position(ft)	0		0	0	0	
Detector 1 Size(ft)	20		20	6	6	
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	
Detector 2 Position(ft)				94	94	
Detector 2 Size(ft)				6	6	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type			Perm			
Protected Phases	4			2	6	

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Permitted Phases			2			
Detector Phase	4		2	2	6	
Switch Phase						
Minimum Initial (s)	6.0		10.0	10.0	10.0	
Minimum Split (s)	11.0		15.0	15.0	15.0	
Total Split (s)	20.0	0.0	50.0	50.0	50.0	0.0
Total Split (%)	28.6%	0.0%	71.4%	71.4%	71.4%	0.0%
Maximum Green (s)	15.0		45.0	45.0	45.0	
Yellow Time (s)	4.0		4.0	4.0	4.0	
All-Red Time (s)	1.0		1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	4.0	5.0	5.0	5.0	4.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Recall Mode	None		Min	Min	Min	
Act Effct Green (s)	10.9		14.0	14.0	14.0	
Actuated g/C Ratio	0.31		0.40	0.40	0.40	
v/c Ratio	0.51		0.18	0.41	0.48	
Control Delay	13.1		9.5	9.1	8.0	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	13.1		9.5	9.1	8.0	
LOS	B		A	A	A	
Approach Delay	13.1			9.1	8.0	
Approach LOS	B			A	A	

Intersection Summary
Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 35
Natural Cycle: 40
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.51
Intersection Signal Delay: 9.3 Intersection LOS: A
Intersection Capacity Utilization 52.0% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 10: Balsey Road & Route 5 & 20

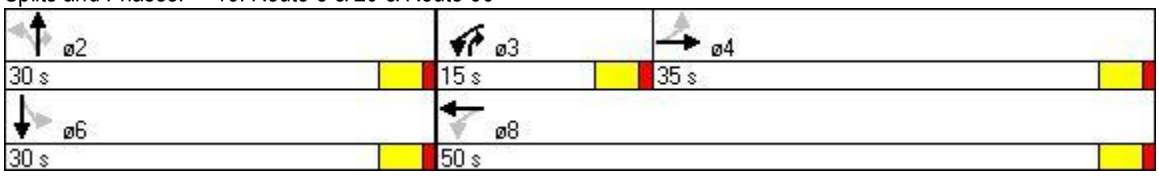


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	47	525	63	106	515	90	50	95	119	86	92	54
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	11	12	12	11	12	12	11	12	12	12	12
Storage Length (ft)	0		0	0		0	0		175	0		0
Storage Lanes	0		0	0		0	0		1	0		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.985			0.981				0.850		0.969	
Flt Protected		0.996			0.993			0.983			0.982	
Satd. Flow (prot)	0	3324	0	0	3300	0	0	1770	1583	0	1773	0
Flt Permitted		0.864			0.740			0.852			0.818	
Satd. Flow (perm)	0	2883	0	0	2460	0	0	1534	1583	0	1476	0
Right Turn on Red			Yes			Yes			No			No
Satd. Flow (RTOR)		17			34							
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1220			1180			1200			1190	
Travel Time (s)		27.7			26.8			27.3			27.0	
Peak Hour Factor	0.92	0.92	0.92	0.96	0.96	0.96	0.78	0.78	0.78	0.95	0.95	0.95
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	51	571	68	110	536	94	64	122	153	91	97	57
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	690	0	0	740	0	0	186	153	0	245	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.04	1.00	1.00	1.04	1.00	1.00	1.04	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100	20	20	100	
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	
Detector 1 Size(ft)	20	6		20	6		20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm			pm+pt			Perm		pm+ov	Perm		
Protected Phases		4		3	8			2	3		6	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2		2	6		
Detector Phase	4	4		3	8		2	2	3	6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		3.0	10.0		6.0	6.0	3.0	6.0	6.0	
Minimum Split (s)	14.0	14.0		7.0	14.0		10.0	10.0	7.0	10.0	10.0	
Total Split (s)	35.0	35.0	0.0	15.0	50.0	0.0	30.0	30.0	15.0	30.0	30.0	0.0
Total Split (%)	43.8%	43.8%	0.0%	18.8%	62.5%	0.0%	37.5%	37.5%	18.8%	37.5%	37.5%	0.0%
Maximum Green (s)	31.0	31.0		11.0	46.0		26.0	26.0	11.0	26.0	26.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lag	Lag		Lead					Lead			
Lead-Lag Optimize?	Yes	Yes		Yes					Yes			
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	Min	Min		None	Min		None	None	None	None	None	
Act Effct Green (s)		19.9			27.3			14.7	25.5		14.7	
Actuated g/C Ratio		0.39			0.54			0.29	0.50		0.29	
v/c Ratio		0.61			0.53			0.42	0.19		0.57	
Control Delay		15.7			8.3			20.1	10.4		23.5	
Queue Delay		0.0			0.0			0.0	0.0		0.0	
Total Delay		15.7			8.3			20.1	10.4		23.5	
LOS		B			A			C	B		C	
Approach Delay		15.7			8.3			15.7			23.5	
Approach LOS		B			A			B			C	

Intersection Summary
Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 50.8
Natural Cycle: 40
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.61
Intersection Signal Delay: 13.9 Intersection LOS: B
Intersection Capacity Utilization 67.6% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 16: Route 5 & 20 & Route 96

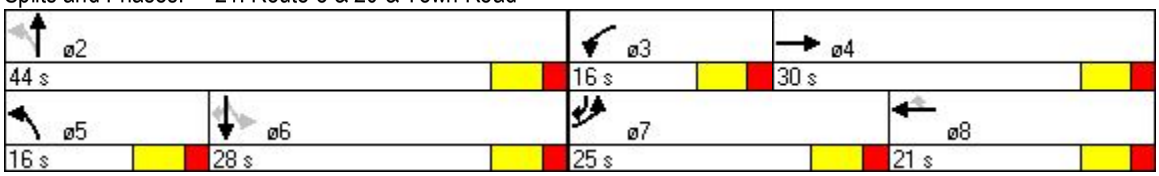


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	212	353	225	84	357	167	210	104	108	135	97	223
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	460		0	387		375	310		0	300		300
Storage Lanes	1		0	1		1	1		0	1		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.942				0.850		0.924				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1752	3302	0	1752	3505	1568	1752	1704	0	1770	1863	1583
Flt Permitted	0.950			0.950			0.493			0.612		
Satd. Flow (perm)	1752	3302	0	1752	3505	1568	909	1704	0	1140	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		155				182		72				173
Link Speed (mph)		45			45			50			35	
Link Distance (ft)		1300			1460			1330			1480	
Travel Time (s)		19.7			22.1			18.1			28.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.90	0.90	0.90	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	2%	2%	2%
Adj. Flow (vph)	230	384	245	91	388	182	233	116	120	147	105	242
Shared Lane Traffic (%)												
Lane Group Flow (vph)	230	629	0	91	388	182	233	236	0	147	105	242
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot			Prot		Perm	pm+pt			Perm		pm+ov
Protected Phases	7	4		3	8		5	2			6	7
Permitted Phases						8	2			6		6

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4		3	8	8	5	2		6	6	7
Switch Phase												
Minimum Initial (s)	3.0	10.0		3.0	10.0	10.0	3.0	6.0		6.0	6.0	3.0
Minimum Split (s)	9.0	16.0		9.0	16.0	16.0	9.0	12.0		12.0	12.0	9.0
Total Split (s)	25.0	30.0	0.0	16.0	21.0	21.0	16.0	44.0	0.0	28.0	28.0	25.0
Total Split (%)	27.8%	33.3%	0.0%	17.8%	23.3%	23.3%	17.8%	48.9%	0.0%	31.1%	31.1%	27.8%
Maximum Green (s)	19.0	24.0		10.0	15.0	15.0	10.0	38.0		22.0	22.0	19.0
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	4.0	6.0	6.0	6.0	6.0	6.0	4.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead			Lag	Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes			Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	None	Min		None	Min	Min	None	None		None	None	None
Act Effct Green (s)	14.8	22.6		8.6	13.4	13.4	31.1	31.1		14.9	14.9	35.8
Actuated g/C Ratio	0.19	0.29		0.11	0.17	0.17	0.40	0.40		0.19	0.19	0.46
v/c Ratio	0.69	0.59		0.47	0.64	0.43	0.49	0.33		0.67	0.29	0.29
Control Delay	42.1	21.7		43.8	36.9	9.0	20.9	12.9		45.7	29.9	4.9
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	42.1	21.7		43.8	36.9	9.0	20.9	12.9		45.7	29.9	4.9
LOS	D	C		D	D	A	C	B		D	C	A
Approach Delay		27.2			30.2			16.9			22.4	
Approach LOS		C			C			B			C	

Intersection Summary
Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 77.6
Natural Cycle: 60
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.69
Intersection Signal Delay: 25.1 Intersection LOS: C
Intersection Capacity Utilization 61.2% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 21: Route 5 & 20 & Town Road

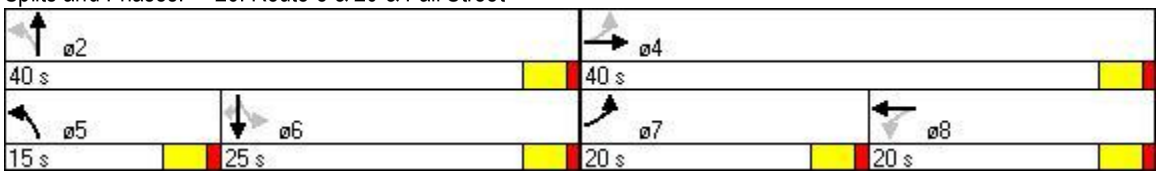


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	211	7	178	6	10	3	169	173	3	3	168	197
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	13	13	12	12	11	12
Storage Length (ft)	325		0	0		0	0		0	0		193
Storage Lanes	1		0	0		0	1		0	0		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00
Frt		0.856			0.978			0.998				0.850
Flt Protected	0.950				0.984		0.950				0.999	
Satd. Flow (prot)	1752	1579	0	0	1775	0	1829	1921	0	0	3418	1583
Flt Permitted	0.656						0.545				0.952	
Satd. Flow (perm)	1210	1579	0	0	1804	0	1049	1921	0	0	3257	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		200			4			1				214
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1115			1185			1420			1460	
Travel Time (s)		25.3			26.9			32.3			33.2	
Peak Hour Factor	0.89	0.89	0.89	0.80	0.80	0.80	0.93	0.93	0.93	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	237	8	200	8	12	4	182	186	3	3	183	214
Shared Lane Traffic (%)												
Lane Group Flow (vph)	237	208	0	0	24	0	182	189	0	0	186	214
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			13			13	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.96	0.96	1.00	1.00	1.04	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100		20	100		20	100	20
Trailing Detector (ft)	0	0		0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt			Perm			pm+pt			Perm		Perm
Protected Phases	7	4			8		5	2			6	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2			6		6
Detector Phase	7	4		8	8		5	2		6	6	6
Switch Phase												
Minimum Initial (s)	3.0	6.0		6.0	6.0		3.0	6.0		6.0	6.0	6.0
Minimum Split (s)	7.0	10.0		10.0	10.0		7.0	10.0		10.0	10.0	10.0
Total Split (s)	20.0	40.0	0.0	20.0	20.0	0.0	15.0	40.0	0.0	25.0	25.0	25.0
Total Split (%)	25.0%	50.0%	0.0%	25.0%	25.0%	0.0%	18.8%	50.0%	0.0%	31.3%	31.3%	31.3%
Maximum Green (s)	16.0	36.0		16.0	16.0		11.0	36.0		21.0	21.0	21.0
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead			Lag	Lag		Lead			Lag	Lag	Lag
Lead-Lag Optimize?	Yes			Yes	Yes		Yes			Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None		None	None		None	Max		Max	Max	Max
Act Effct Green (s)	16.6	16.6			6.7		36.6	36.6			24.3	24.3
Actuated g/C Ratio	0.27	0.27			0.11		0.60	0.60			0.40	0.40
v/c Ratio	0.54	0.36			0.12		0.25	0.16			0.14	0.28
Control Delay	22.7	4.8			26.5		8.6	8.0			15.5	4.4
Queue Delay	0.0	0.0			0.0		0.0	0.0			0.0	0.0
Total Delay	22.7	4.8			26.5		8.6	8.0			15.5	4.4
LOS	C	A			C		A	A			B	A
Approach Delay		14.3			26.5			8.3			9.6	
Approach LOS		B			C			A			A	

Intersection Summary
Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 61.4
Natural Cycle: 40
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.54
Intersection Signal Delay: 11.2 Intersection LOS: B
Intersection Capacity Utilization 42.7% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 26: Route 5 & 20 & Fall Street



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	10	249	165	321	352	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0			240	0	0
Storage Lanes	0			1	1	0
Taper Length (ft)	25			25	25	25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt				0.850	0.997	
Flt Protected		0.998			0.954	
Satd. Flow (prot)	0	1841	1845	1568	1755	0
Flt Permitted		0.998			0.954	
Satd. Flow (perm)	0	1841	1845	1568	1755	0
Link Speed (mph)		55	55		55	
Link Distance (ft)		1410	450		1090	
Travel Time (s)		17.5	5.6		13.5	
Peak Hour Factor	0.86	0.86	0.70	0.70	0.90	0.90
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	12	290	236	459	391	10
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	302	236	459	401	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary
Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 47.9% ICU Level of Service A
Analysis Period (min) 15

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	10	249	165	321	352	9
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.86	0.86	0.70	0.70	0.90	0.90
Hourly flow rate (vph)	12	290	236	459	391	10
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)			450			
pX, platoon unblocked						
vC, conflicting volume	694				549	236
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	694				549	236
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				20	99
cM capacity (veh/h)	897				489	801

Direction, Lane #	EB 1	WB 1	WB 2	SB 1
Volume Total	301	236	459	401
Volume Left	12	0	0	391
Volume Right	0	0	459	10
cSH	897	1700	1700	494
Volume to Capacity	0.01	0.14	0.27	0.81
Queue Length 95th (ft)	1	0	0	194
Control Delay (s)	0.5	0.0	0.0	36.8
Lane LOS	A			E
Approach Delay (s)	0.5	0.0		36.8
Approach LOS				E

Intersection Summary			
Average Delay	10.7		
Intersection Capacity Utilization	47.9%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	54	534	13	43	398	106	29	10	42	59	8	59
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.997			0.974			0.930			0.937	
Flt Protected		0.996			0.996			0.982			0.977	
Satd. Flow (prot)	0	1832	0	0	1790	0	0	1685	0	0	1689	0
Flt Permitted		0.913			0.921			0.844			0.802	
Satd. Flow (perm)	0	1679	0	0	1655	0	0	1448	0	0	1386	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4			43			50			64	
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		450			1320			1240			1200	
Travel Time (s)		5.6			16.4			15.4			14.9	
Peak Hour Factor	0.92	0.92	0.92	0.94	0.94	0.94	0.84	0.84	0.84	0.85	0.85	0.85
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	59	580	14	46	423	113	35	12	50	69	9	69
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	653	0	0	582	0	0	97	0	0	147	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		6.0	6.0		6.0	6.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	15.0	15.0		15.0	15.0		11.0	11.0		11.0	11.0	
Total Split (s)	45.0	45.0	0.0	45.0	45.0	0.0	15.0	15.0	0.0	15.0	15.0	0.0
Total Split (%)	75.0%	75.0%	0.0%	75.0%	75.0%	0.0%	25.0%	25.0%	0.0%	25.0%	25.0%	0.0%
Maximum Green (s)	40.0	40.0		40.0	40.0		10.0	10.0		10.0	10.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0	4.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Max	Max		Max	Max	
Act Effct Green (s)		20.9			20.9			10.3			10.3	
Actuated g/C Ratio		0.50			0.50			0.25			0.25	
v/c Ratio		0.77			0.68			0.24			0.38	
Control Delay		14.8			11.2			11.5			13.6	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		14.8			11.2			11.5			13.6	
LOS		B			B			B			B	
Approach Delay		14.8			11.2			11.5			13.6	
Approach LOS		B			B			B			B	

Intersection Summary
Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 41.5
Natural Cycle: 40
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.77
Intersection Signal Delay: 13.0 Intersection LOS: B
Intersection Capacity Utilization 62.2% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 32: Route 5 & 20 & Route 89