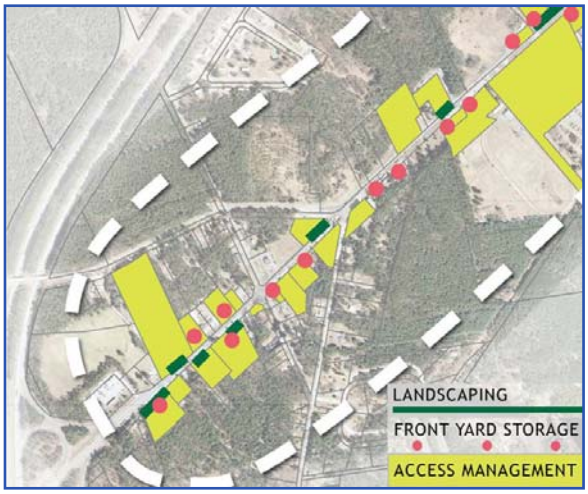
Exit 17 / US Route 9 Corridor Land Use and Transportation Study

Report

September 2014



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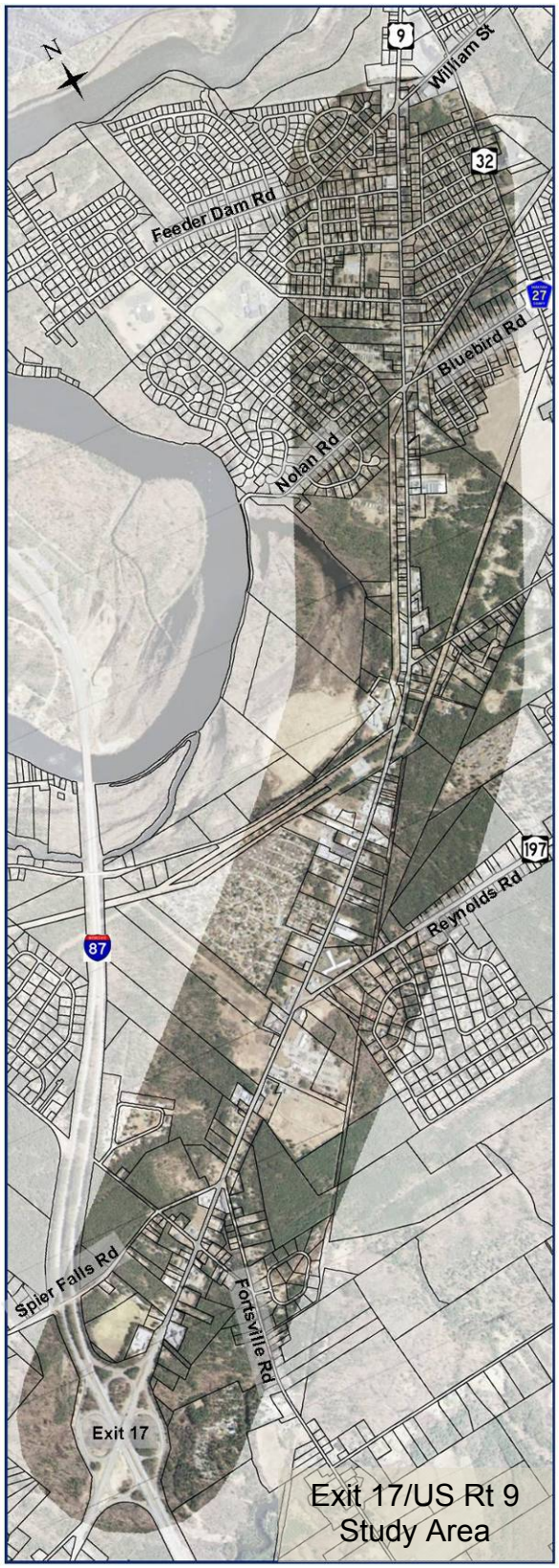
CHAPTER 1. INTRODUCTION

US Route 9 is an important regional arterial with relatively high volumes of commuter traffic and truck traffic traveling between I-87 and the Glens Falls region and beyond. The recognition of the need for planning for anticipated growth, while attempting to preserve the transportation functionality of this vital corridor, is the primary motive of this study. The Town of Moreau, with funding through the Adirondack/Glens Falls Transportation Council (A/GFTC) is evaluating the land use and transportation characteristics along the Route 9 corridor, between Exit 17 to the south and the Village of South Glens Falls to the north, to understand the trade-offs of land development decisions and resulting transportation needs and function. Although recent transportation improvement projects have occurred in and around the US Route 9 corridor, no additional publicly funded roadway modification projects are planned in the short term.



Exit 17/US Rt 9 Study Area

This study analyzes existing conditions and roadway capacities, develops land use and traffic growth projections, and identifies short and long term recommendations and strategies to help the Town and the region plan for growth while preserving the function of the existing surface transportation system. The Town of Moreau is encouraging economic development along the US Route 9 corridor and is exploring financing for a sewer extension project. The area adjacent to US Route 9 targeted for development has several large open parcels of land and is the only commercially zoned land in the Town.

To advance this Study, an Advisory Committee was established with representatives from the Town of Moreau, A/GFTC, the New York State Department of Transportation (NYSDOT), and the Saratoga County Planning Department. Several meetings were held with the Advisory Committee at key milestones to review preliminary analyses and findings as contained throughout the report and in the technical appendices. Discussions at these meetings ultimately shaped the recommendations of this study. A public meeting was also held along with

an extended public comment period to receive additional input on this study.

The recommendations presented in this study are intended to support the Town of Moreau's efforts to develop a consensus vision about the functionality and appearance of the US Route 9 corridor. The recommendations are conceptual in nature and are presented to characterize the types of improvements that are desirable, and that may be implemented as part of future land use and transportation improvement projects. All transportation concepts will require further engineering evaluation and review.

A. STUDY PURPOSE

At the outset of this Study, the Advisory Committee discussed the challenges and trade-offs of land development and preservation of transportation function and arrived at the following Project Purpose:

The purpose of the Exit 17 / Route 9 Corridor Land Use and Transportation Study is to preserve the utility of the existing surface transportation system by formulating feasible land use recommendations and conceptual design alternatives that will help the Town of Moreau plan for anticipated growth and foster economic development along the corridor. Through a process that includes public and agency involvement, the Plan will balance corridor growth and development with traffic operations, overall safety, infrastructure costs, and implementation timeframe. To achieve this purpose, the following strategies have been identified:

- *Maintain acceptable traffic operations and travel times in the corridor, understanding that increased development may result in increased congestion and delay.*
- *Reduce excessive vehicle trips by pursuing multimodal (bicycle, pedestrian, and transit) improvements, parcel interconnectivity, and secondary access routes.*
- *Identify feasible and cost-effective transportation system improvements.*

The Project Purpose establishes the framework for the alternatives in this Study, and the resulting conclusions and recommendations.

B. STUDY AREA

The study area is defined as the 4.5 mile long section of US Route 9 in the Town of Moreau, from Interstate 87 (I-87) Exit 17 in the south to the southern boundary of the Village of South Glens Falls in the north. US Route 9 is a critical access link to I-87 for northern Saratoga County and central and northern Washington County. The southern section of the corridor accommodates regional freight traffic between I-87 and northern New England utilizing NY Route 197 (Reynolds Road).

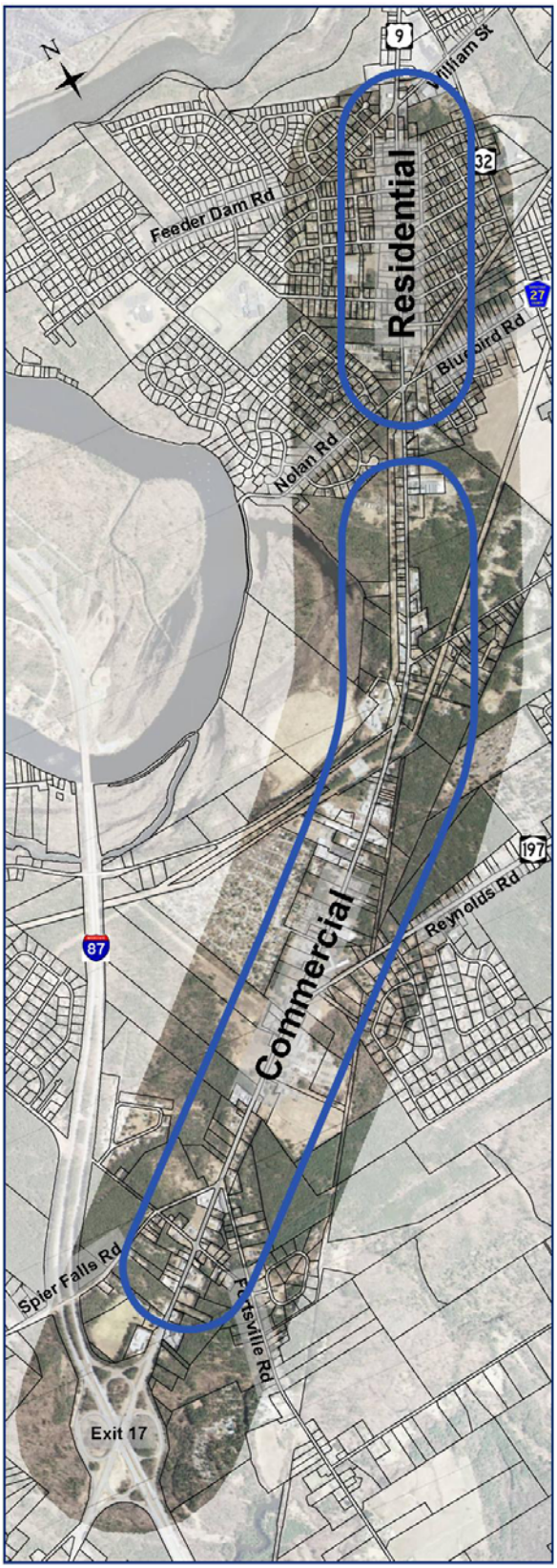
Within that study area, detailed traffic engineering analyses have been included for the four signalized intersections of Spier Falls Road (CR 24)/Fortsville Road (CR 31), Reynolds Road (NY Rt 197), Bluebird Road (CR 27)/Nolan Road, and William Street/Feeder Dam Road.

CHAPTER 2. EXISTING CONDITIONS

A. LAND USE

The study area can generally be divided into two character areas; a predominantly commercial area from Exit 17 to Bluebird Road/Nolan Road and, despite commercial zoning, a more residential area from Bluebird Road/Nolan Road to William Street/Feeder Dam Road. The commercially developed area is characterized by large, vacant parcels with longer building setbacks, and relatively undefined access. The residentially developed area is characterized by small parcel sizes and reduced building setbacks.

Within the southern portion of the corridor there are a number of gas stations, auto dealerships and repair facilities, farm and heavy vehicle service and sales, fast food, motels, and other restaurants. North of Bluebird Road/Nolan Road the land use is primarily single-family residential.



B. ZONING

The purpose of the Zoning Code is to regulate building size, lot coverage, density, and land use by trade, industry, agriculture, residence, and other purposes. The study area is comprised almost entirely of the C-1 commercial district. However there are smaller areas that are zoned C-2, C-3, and CC-1 for the ⅔ mile segment at the northernmost end of the corridor. Planned Unit Development Districts are also allowed in the study corridor. The image below highlights the study corridor on the Town of Moreau Zoning Map. Table 2.1 summarizes some of the regulations within the zoning districts included in the study corridor.

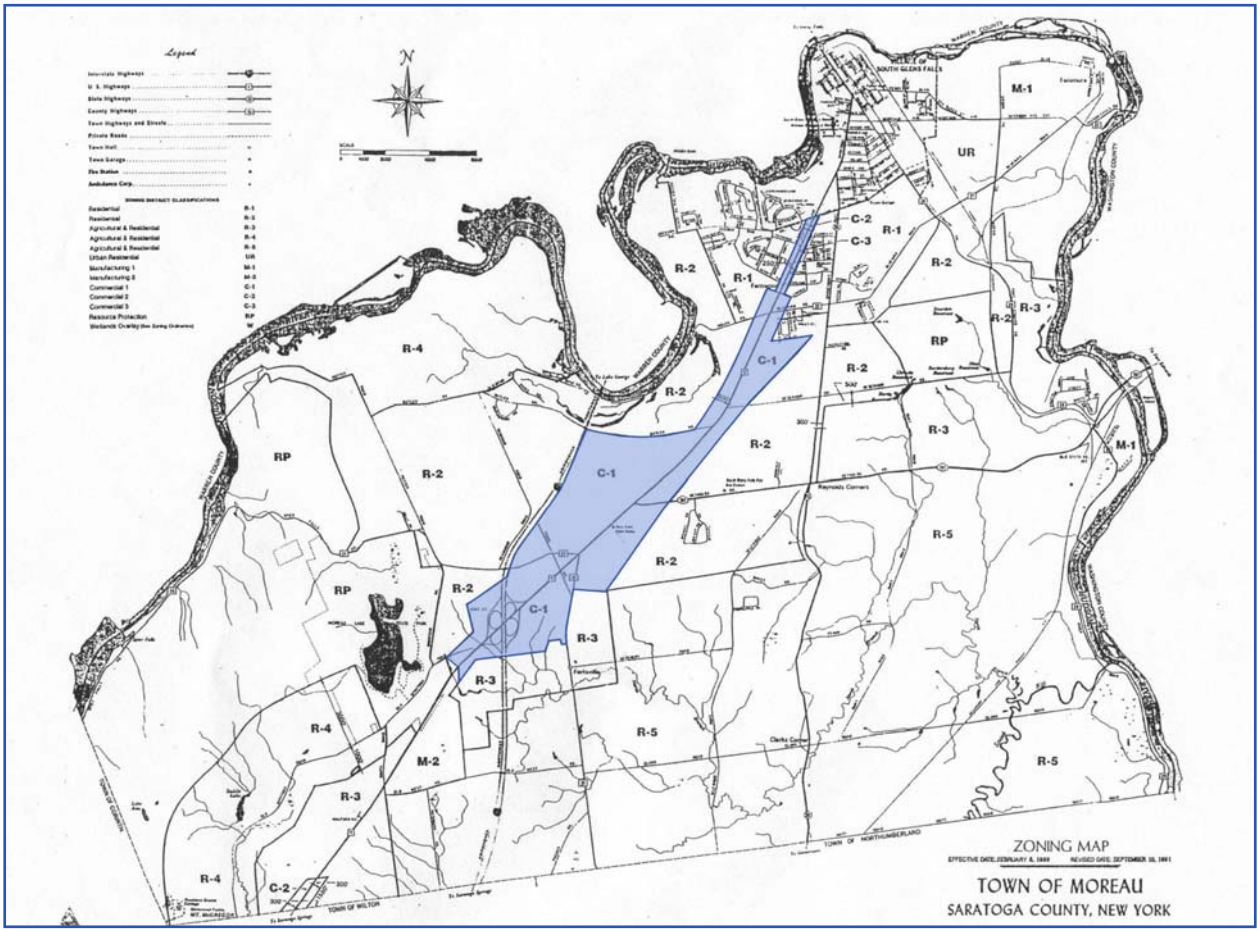


TABLE 2.1 – ZONING REGULATION SUMMARY

Zoning Class	Maximum Lot Coverage (%)	Maximum Structure Height (feet)	Minimum Setback (feet)		
			Front	Side	Rear
General Commercial (C-1)	40	30	50	15	30
Neighborhood Commercial (C-2)	40	30	50	15	30
Residential & Professional (C-3)	25	38	40	12	30
Commercial & Communications (CC-1)	60	120	*	*	*

* Setbacks defined by special notes

The C-1 District (General Commercial) allows highway commercial uses such as diners and motels as well as equipment, boat, and mobile home sales. Additional uses allowed by special

permit include auto sales and service, gas stations, light manufacturing, and storage. These types of uses comprise a majority of the southern commercial end of the corridor. Minimum lot sizes in this district are typically 1 acre and minimum front setbacks are 50 feet, except for special permit uses which are 80 feet.

In the northern end of the study area, the C-3 (Residential and Professional) zoning acts as a transition from commercial to residential character. The C-3 district allows only professional offices, customary home occupations, and single-family residences. This district now reflects and maintains a natural evolution from the single-family neighborhood to a more commercial area as the existing homes have been converted over time to small start-up businesses. It also reflects a transition from the highway interchange commercial area to the denser urban fabric that is present in the Village of South Glens Falls. The minimum lot configurations here (15,000 ft^2 to 22,500 ft^2) are much smaller than in the towns C-1 zone (1 acre = 43,500 ft^2) reflecting the reality of the smaller lot sizes of the historic single-family neighborhood development pattern. Minimum front setbacks are 40 feet.

At the very northern end of the study area, the C-2 (Neighborhood Commercial) district permits local retail businesses, grocery stores, and restaurants (although to a smaller scale of development than what is allowed within C-1) as well as single-family dwellings and mixed-use housing by special permit. In this regard, it permits slightly more intensive uses than the C-3 district to the south. This district is paired with C-1 zoning just across the street, and contains a small mixed-use neighborhood shopping node at the intersection of Route 9 and William Street. Like the C-3 District, minimum lot sizes range from 15,000 ft^2 to 22,500 ft^2 and are much smaller than the primary commercial district. Minimum front setbacks are 50 feet, similar to the C-1 District.

The remaining CC-1 (Commercial and Communications) District near the Northway is identical to the C-1, except that it also permits telecommunication towers.

Overall, these existing districts represent a reasonable hierarchy of development patterns along the corridor from Exit 17 north toward the village and are consistent with existing zoning with few conflicts.

C. TRANSPORTATION INFRASTRUCTURE

US Route 9 is classified as an “urban principal arterial” and provides north-south access through Saratoga County. In the study area, US Route 9 features two and three lane roadway sections ranging from 39 to 44 feet in overall width with varying shoulder and travel lane widths as identified in Table 2.2. US Route 9 is primarily uncurbed, with some curbed areas south of Spier Falls Road/Fortsville Road. There are three passing zones: one in the residentially developed area and two in the commercially developed area. US Route 9 and NYS 197 are County-designated on-road bicycle routes. The shoulder widths are wide enough to meet or exceed minimum recommended widths for bicycles and pedestrians with the exception of the areas immediately adjacent to Reynolds Road, where 3 to 4 foot wide shoulders are present. The roadway segment cross-sections are illustrated in Appendix A.

TABLE 2.2 – ROADWAY CROSS-SECTION

Roadway Segment	Width in feet			
	Through	Two-way Left-turn	Shoulders	Total
Exit 17 to Spier Falls Rd	11	11	5	43
Spier Falls Rd to NYS 197	14	0	7	42
NYS 197 to Lamplighter Blvd	12	12	3-4	42-44
Lamplighter Blvd to William St	12	0	8-10	40-44
William St and north	14	11	0	39

Posted speed limits on US Route 9 in the study corridor range from 55-mph at Exit 17 to 45-mph from Exit 17 to Feeder Dam Road/William Street, and 40-mph north of the Feeder Dam Road/William Street intersection.

As part of a roadway construction project implemented by NYSDOT (PIN 1043.38), the William Street/Feeder Dam Road intersection with US Route 9 was upgraded to include pedestrian signals, pushbuttons, countdown timers, crosswalks, ramps, and detectible warning. The three other signalized intersections in the southern section of the study corridor do not have pedestrian accommodations or features.

D. TRAFFIC VOLUMES AND TRAFFIC OPERATIONS

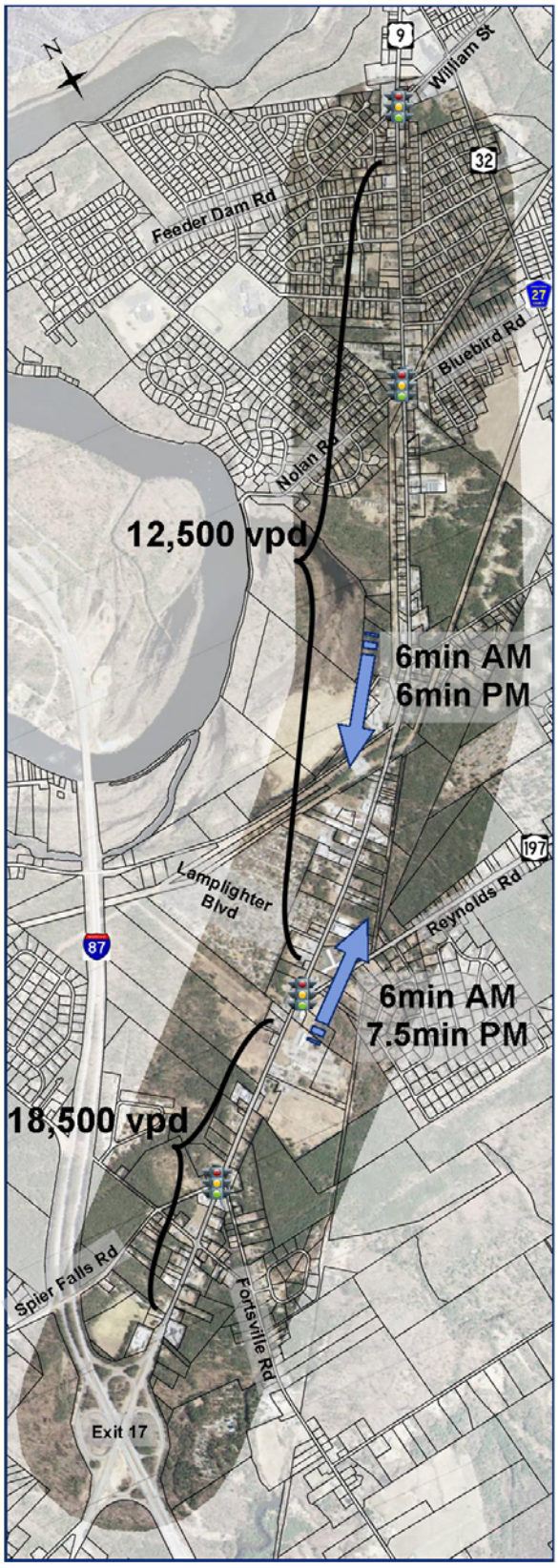
Daily traffic volume and travel speed data was reviewed and supplemented through intersection turning movement counts. In the southern portion of the study area from Exit 17 to Reynolds Road (NYS 197), US Route 9 carries 18,500 vehicles per day (vpd). North of Reynolds Road, US Route 9 carries 12,500 vpd. Detailed turning movement counts are contained in Appendix B.

Intersection Level of Service (LOS) and capacity analysis relate traffic volumes to the physical characteristics of an intersection. Evaluations of the signalized intersections were made using Synchro8 software. Levels of service range from A to F, with LOS A conditions considered excellent (very little delay) while LOS F represents conditions with very long delays. Table 2.3 summarizes the existing LOS results in the study corridor.

TABLE 2.3 – LEVEL OF SERVICE SUMMARY

Intersection		2013 Existing AM Peak Hour	2013 Existing PM Peak Hour
Feeder Dam Rd/William St			
Feeder Dam Rd EB	LTR	C (25.7)	C (24.8)
William St WB	LTR	C (22.2)	C (25.1)
Rt 9 NB	LTR	A (6.1)	A (6.8)
Rt 9 SB	LTR	A (5.5)	A (8.0)
Overall		B (10.6)	B (11.0)
Nolan Rd/Bluebird Rd			
Nolan Rd EB	LTR	B (18.2)	B (17.7)
Bluebird Rd WB	LTR	C (21.0)	B (19.5)
Rt 9 NB	LTR	B (12.3)	A (9.1)
Rt 9 SB	LTR	A (9.0)	A (7.2)
Overall		B (13.2)	A (9.8)
NY Rt 197 (Reynolds Rd)			
Reynolds Rd WB	LR	C (34.0)	C (24.0)
Rt 9 NB	T	B (19.9)	C (24.3)
	R	B (17.4)	B (14.5)
Rt 9 SB	L	C (23.8)	C (29.1)
	T	B (19.0)	B (10.7)
Overall		C (24.3)	B (19.2)
Spier Falls Rd/Fortsville Rd			
Spier Falls Rd EB	LTR	D (37.8)	D (36.7)
Fortsville Rd WB	LTR	D (36.6)	D (36.8)
Rt 9 NB	L	C (22.7)	A (8.8)
	TR	B (13.3)	B (19.9)
Rt 9 SB	L	A (8.7)	B (14.0)
	TR	F (46.3)	B (12.8)
Overall		C (33.2)	B (18.3)

L, T, R = Left-turn, Through, or Right-turn movement
X (Y.Y) = Level of Service (Average delay in seconds per vehicle)



The LOS table shows that overall traffic operations are stable, but with some longer delays on Route 9 south of NYS 197 in the peak commuter direction (southbound during the AM peak and northbound during the PM peak).

Travel time studies conducted in the corridor showed that it takes around six minutes to travel the corridor during the AM peak hour, and there is recurring delay and queuing approaching Spier Falls Road. The travel times equate to an approximate travel speed of 41 mph in both the northbound and southbound directions. During the PM peak hour it takes roughly seven and a half minutes northbound and six minutes southbound, with travel speeds of approximately 31 mph northbound and 41 mph southbound. The travel time runs indicate that delays occurring within the corridor are limited to volume and stopping at traffic signals, and that overall travel times and operating speeds are acceptable. Despite acceptable travel times and levels of service, field observations and anecdotal experiences have noted long vehicle queues and delays experienced in the southbound direction during the AM peak hour and in the northbound direction during the PM peak hour at the Spier Falls Road signalized intersection. The queues have been noted to extend through the Reynolds Road intersection to the north and through Exit 17 to the south.

E. TRANSIT

Greater Glens Falls Transit (GGFT) currently operates transit service in the northern part of the study area corridor via Bus Route 5 (South Glens Falls) to/from Lamplighter Acres, which is located off of the west side of Route 9 just north of Reynolds Road. The service operates from 6:30 a.m. to 5:35 p.m. with a bus once every two hours on average. The Capital District Transportation Authority's (CDTA) Northway Xpress also operates commuter service in the corridor, with limited stops between South Glens Falls and downtown Albany.

MOREAU - S. GLENS FALLS

WEEKDAY SERVICE

Ridge St. Terminal	Main St. & Saratoga Ave	S. G. F. High School	Bluebird Rd. & Gansevoort Rd.	Lamplighter Acres	Main St.& Fifth St.	Ridge St. Terminal
		-AM-				
6:30	6:39	6:43	6:49		6:52	6:55
8:00	8:09	8:13	8:19		8:23	8:25
L8:30	8:39	8:43	----	8:45	8:53	8:55
L10:00	10:09	10:13	----	10:15	10:23	10:25
		-PM-				
12:00	12:09	12:13	12:19		12:23	12:25
2:00	2:09	2:13	2:19		2:23	2:25
L4:00	4:09	4:13	4:19	4:15	4:23	4:25
5:10	5:19	5:23	5:29		5:33	5:35

All trips will travel the Second St./Riverview /Third St. if requested
All routes use Merritt Rd. and Feeder Dam Rd.
All 8:30 & 10:00am "L" trips travel to/from Lamplighter Acres, the 4:00 trip will only if requested using Rte 9 instead of Bluebird/Gansevoort Rds on return.

F. PEDESTRIANS AND BICYCLISTS

US Route 9 is a component of the Saratoga County Heritage Trail network of on-road bicycling facilities. There are dedicated right-of-way facilities in southern Warren County and South Glens Falls such as the Betar Byway, and farther south in Saratoga County, though not through the study corridor. Bicycle traffic on US Route 9 is supported by paved (5 to 10 foot) shoulders. However, there are areas with narrow shoulders that bring cyclists closer to the vehicles travelling at or above the posted 45-mph speed limit.

Pedestrian trips along the corridor generally occur on the available roadway shoulders.

G. ACCIDENT EVALUATION

Accident data was provided by A/GFTC for the study corridor from 2006 through 2011. The most recent three years of data (2009-2011) was reviewed to identify accident severity and accident rate information. Two safety improvement projects have been implemented in the corridor. The safety projects are:

- PIN 1043.38 – Construction of center two-way left-turn lane and sidewalks from William Street/Feeder Dam Road through the Village of South Glens Falls.
- PIN 1043.52 – Roadway re-striping on US Route 9 from I-87 Exit 17N Interchange through the Spier Falls Rd/Fortsville Rd intersection and installation of a traffic signal at the intersection.

Both projects identify addressing safety as one of the needs for the roadway improvements. The crash data summarized in tables 2.4 and 2.5 include a limited portion (approximately six months) of data after installation of the traffic signal at the Spier Falls Rd/Fortsville Rd intersection. Therefore, the intersection evaluation is divided into "unsignalized" and "signalized" to provide a comparison to actual conditions before/after the improvement project.

TABLE 2.4 – US ROUTE 9 ACCIDENT SUMMARY (1/1/2009 – 12/31/2011)

Accident Location	Accident Severity					
	Fatality	Personal Injury	Property Damage Only	Non-Reportable[1]	Unknown	Total
Roadway Segment						
Exit 17 to Reynolds Rd[2]	0	23	51	24	1	99
Reynolds Rd to William St[3]	0	30	51	31	0	112
Intersection						
Spier Falls Rd/Fortsville Rd						
Unsignalized (up to 6/2011)	0	0	1	2	0	3
Signalized (after 6/2011)	0	1	2	1	0	4
Reynolds Rd (NY Rt 197)	0	4	9	3	0	16
Bluebird Rd/Nolan Rd	0	6	5	6	0	17
William St/Feeder Dam Rd	0	5	7	4	0	16

[1] A non-reportable accident indicates no personal injuries occurred and property damages totaled less than $1,000.
[2] The total roadway segment accidents include the accidents at Spier Falls Rd/Fortsville Rd and Reynolds Rd (NY Rt 197).
[3] The total roadway segment accidents include the accidents at Bluebird Rd/Nolan Rd and William St/Feeder Dam Rd.

Table 2.4 shows that there were 211 accidents on US Route 9 between the Exit 17 northbound on and off ramps and the intersection with William Street/Feeder Dam Road. Of the 211 accidents, 56 occurred at the study intersections and 155 occurred on the roadway segments. Of the 112 accidents between Reynolds Road and William Street/Feeder Dam Road, two involved bicyclists and one involved a pedestrian. There were no pedestrian or bicycle accidents from Exit 17 to Reynolds Road. There were five head-on accidents, two from Exit 17 to Reynolds Road and three from Reynolds Road to William Street/Feeder Dam Road.

It should be noted that the seven months of data at the Spier Falls Road/Fortsville Road intersection is not statistically significant to draw conclusions about crash trends after the completion of the intersection improvement project. There may be a need to analyze this intersection further with a statistically significant data period to determine the effect that installation of a traffic signal has had on the accidents.

TABLE 2.5 – US ROUTE 9 ACCIDENT RATES (1/1/2009 – 12/31/2011)

Accident Location	Accident Rate	
	Calculated	NYSDOT Average
Roadway Segment (ACC/MVM)		
Exit 17 to Reynolds Rd	3.42	3.26
Reynolds Rd to William St	2.88	3.26
Intersection (ACC/MEV)		
Spier Falls Rd/Fortsville Rd		
Unsignalized (up to 6/2011)	0.22	0.23
Reynolds Rd (NY Rt 197)	0.78	0.24
Bluebird Rd/Nolan Rd	1.07	0.39
William St/Feeder Dam Rd	0.89	0.39

ACC/MVM = Accidents per Million Vehicle Miles
ACC/MEV = Accidents per Million Entering Vehicles

The roadway segment accident rates are comparable to the statewide average for similar facilities, while the intersection rates are higher than the statewide average, with the exception of the Spier Falls Road/Fortsville Road intersection under the unsignalized condition. The data shows that the predominant type of accident at the four signalized intersections is rear end collisions. Appendix C contains a breakdown of the accident data at the intersections by collision type. The recommendations of the study will consider accident reduction benefits when determining appropriate intersection geometry.

H. LIGHTING

Lighting along US Route 9 is limited through the corridor. Overhead cobra style lighting is provided on the east side of US Route 9 from Reynolds Road to Butler Road. North of Butler Road, one cobra style light is provided at each unsignalized intersection. South of Reynolds Road, no overhead roadway lighting is provided. The Town is concerned about the limited lighting in the corridor, primarily in the southern end of the corridor near existing gas stations and truck stops as trucks turning on to US Route 9 are difficult to see at night. Limited lighting is also a concern for pedestrians and bicyclists utilizing the corridor.

CHAPTER 3. FORECASTS AND EVALUATION

As the Town of Moreau seeks to expand its sanitary sewer services southward to Exit 17, changing land use patterns and development pressure will negatively impact travel times and mobility throughout the study corridor, unless the growth is managed and transportation improvements occur in concert with development. This chapter summarizes the land development potential in the corridor and the implications that that development will have on traffic operations. This chapter then proposes a limited land use build-out scenario combined with feasible transportation improvements that balances the goals of economic development, personal mobility and smart growth.

A. LAND USE AND TRIP GENERATION

Land use forecasts for the future condition are based on two categories of future development; projects that are currently approved or pending but are not yet built, and projects that may come to fruition with sewer expansion. A meeting with representatives from the Town of Moreau identified a number of approved and pending projects as summarized in Table 3.1 and on Figure 3.1 at the end of this chapter.

TABLE 3.1 – APPROVED OR PENDING PROJECTS

No.	Name	Land Use	Size	PM Peak Hour Trips
1	North Rd/Feeder Dam Rd Development	Single Family Homes	70 – 95 lots	76
2	Pruyn Crest	Single Family Homes	42 lots	48
3	Schermerhorn Project	Apartments	280 units	172
4	The Nest PUD	Mixed Residential	64 Assisted Living Beds 94 Subsidized Senior Houses 100 Senior Apartments	64
5	Leonelli Project	Apartments	240 units	151
6	Sisson Reserve	Apartments	64 units	53
7	Winterberry Woods	Single Family Homes	64 lots	70
8	Arrowhead Meadows	Single Family Homes	80 lots	86
9	Tee Bird Golf Course Redevelopment	Single Family Homes and Duplexes	Approximately 300 units	282
10	Woodscape Development	Single Family Homes	8 lots left	8
11	Pinewood Estates	Single Family Homes	20 lots left	25
12	English Village	Apartments	100 unit expansion	73
13	Simione Property	Single Family Homes	17 lots left	21

Table 3.1 shows that there are 13 currently approved or pending projects as identified by the Town. These projects include more than 1,500 new residential units. It is noted that there are no pending commercial projects within the Town. As noted previously, the zoning within the town limits commercial activity to the US Route 9 corridor. However, the lack of sewer infrastructure has contributed to low growth in the corridor.

With construction of sewer infrastructure in the study corridor, a number of parcels are more

likely to develop. During the meeting with representatives from the Town of Moreau, the corridor was evaluated on a parcel by parcel basis to identify the most likely locations for development. Table 3.2 summarizes the "speculative" (or potential) corridor growth which is also illustrated on Figure 3.1 and is consistent with zoning and/or permitted by special permit. The development type, size, and number of PM peak hour trips are intended for planning purposes only. The actual development in the corridor may vary significantly from those summarized in Table 3.2. The development potential was estimated utilizing the most recent GIS mapping data and information available from the Town.

TABLE 3.2 – SPECULATIVE DEVELOPMENT

No.	Name	Assumed Development Type	Size	PM Peak Hour Trips
1	Buck Project	Village Concept (Mixed-Use)	125 acres	1,506
2	Moreau Industrial Park*	LI/Manufacture/Warehouse	235 acres	810
3	Fort Edward Trucking Redevelopment	Commercial Retail	40 acres	786
4	Jacobie Farm	Residential	64 acres	56
5	Kotts Farm	Residential	65 acres	60
6	Barody Property	Residential	14 acres	10
7	Excess Land Property	Residential	22 acres	20
8	DeSantis Enterprises Property	Residential	25 acres	20
9	Lamplighter Acres Property	Commercial Retail	9 acres	41
10	Sweet Mobile Home Park	Residential	40 acres	20
11	Adirondack Trust Co.	Commercial	11 acres	217
12	Parillo Property	Commercial	27 acres	373
13	Burke Property	Commercial	4 acres	233
14	Multiple owners	Commercial	44 acres	211
15	Grande Golf Range & Property	Commercial	23 acres	318
16	Traditional Builders Property	Commercial	85 acres	786

* The Industrial Park is not in the Route 9 corridor, but is a major development within the town and is therefore included with the speculative developments

The zoning code currently allows up to 40% building coverage per parcel. If the allowed percentage of building coverage is attained through future development of all of the parcels listed, the acreages identified in Table 3.2 could yield 12,000,000 square feet (SF) of commercial building space, and approximately 900 residential units. This level of "buildout" potential, although theoretically possible, is not likely to be achieved. Therefore, a reduced buildout potential was developed to estimate a more realistic growth scenario in the corridor as more representative of the level of development that could occur in the foreseeable future. The reduced growth scenario maintained the approximately 900 residential units, but reduced the density of the commercial development resulting in speculative future development of almost 2 million square feet of commercial space. These numbers were used to estimate the PM peak hour trips shown in Table 3.2. It is noted that the 2 million square feet includes 1 million square feet of growth within the Industrial Park. This level of growth is comparable to approximately 5% to 10% of building coverage per parcel which is substantially lower than the 40% of building coverage allowed within the current zoning. The Advisory Committee identified this "reduced growth scenario" as a reasonable growth scenario for the corridor. When combined with the approved and pending projects identified in Table 3.1, there is potential for an additional 2,600 vehicle trips in the corridor during the AM peak hour and an additional 4,400 vehicle trips in the corridor during the PM peak hour.

It is recognized that development proposals are constantly changing as existing proposals become more refined, are withdrawn, and/or new projects are introduced, so these forecasts are intended for planning purposes only.

B. ALTERNATIVES

In order to understand the implications of the potential land use buildout in the previous section, a number of land use and transportation alternatives were developed and analyzed. For example, one land use scenario is the build-out of the corridor with traditional development patterns for the projects listed in Tables 3.1 and 3.2, shown in the table below as no zoning modification. This is a worst case scenario from a traffic standpoint, because motorists will need to travel longer distances on Route 9 between distinct uses. A second land use scenario is to promote mixed-use development that assumes adopting zoning modifications that promote developments that encourage multi-modal and shared vehicle trips and minimizes off-site trips, shown in the table below as Mixed use / Parcel connections. This is a better scenario from a traffic standpoint, because mixed use developments can decrease external trips by approximately 10 percent. Finally, and consistent with the Study Purpose, a third land use scenario was identified and analyzed, which is the amount of growth that can occur with reasonable and feasible transportation investment (localized capacity modification alternative) that limits development to such an extent to result in travel times through the corridor that are similar to existing conditions.

Since the southern end of the corridor is currently operating near capacity, little growth should occur without transportation improvements. Specifically this planning study analyzed three primary transportation alternatives. The three primary transportation alternatives are: 1) intersection timing modifications (essentially optimizing the existing traffic signals), 2) localized capacity modifications (consisting of improvements at intersections and a three-lane section south of Reynolds Road to maximize the capacity of the existing system with minimal to modest investment), and 3) major roadway capacity modifications (larger-scale and more costly transportation improvements might be needed if land use management is not employed). The three primary transportation alternatives are analyzed with the land use strategies to identify the recommended combination of land development and transportation investment for the corridor.

The following table and list identifies the three primary transportation alternatives and the land use (zoning modification) alternatives resulting in eight conditions that were analyzed for this study:

TABLE 3.3 – ALTERNATIVES

Alternative	Development Potential	Zoning Modification	Roadway Configuration	Intersection Modification
No-Build	--	--	Existing	--
Intersection Timing Modifications				
1A	2 million SF commercial 2,400 residential units	None	Existing	Signal timing
1B		Mixed use Parcel connections		
Localized Capacity Modifications				
2A	2 million SF commercial 2,400 residential units	None	3-lane from Rt 197 south	Signal timing Capacity
2B		Mixed use Parcel connections		
2C	500,000 SF commercial 250 residential units	Reduced density		
Major Roadway Capacity Modifications				
3A	2 million SF commercial 2,400 residential units	None	5-lane from Rt 197 south	Signal timing Capacity
3B		Mixed use Parcel connections		

No-Build Conditions

- *Existing* – Existing roadway configuration and existing traffic volumes

1) Intersection Timing Modifications

A. *Full Build Intersection Timing* – Existing roadway configuration, traffic signal timing modifications, future traffic volumes with 2 million SF of development and 2,500 residential units
B. *Mixed Use Intersection Timing* – Existing roadway configuration, traffic signal timing modifications, future traffic volumes with 2 million SF of development and 2,500 residential units with zoning modifications that reduce off-site vehicle trips.

2) Localized Capacity Modifications

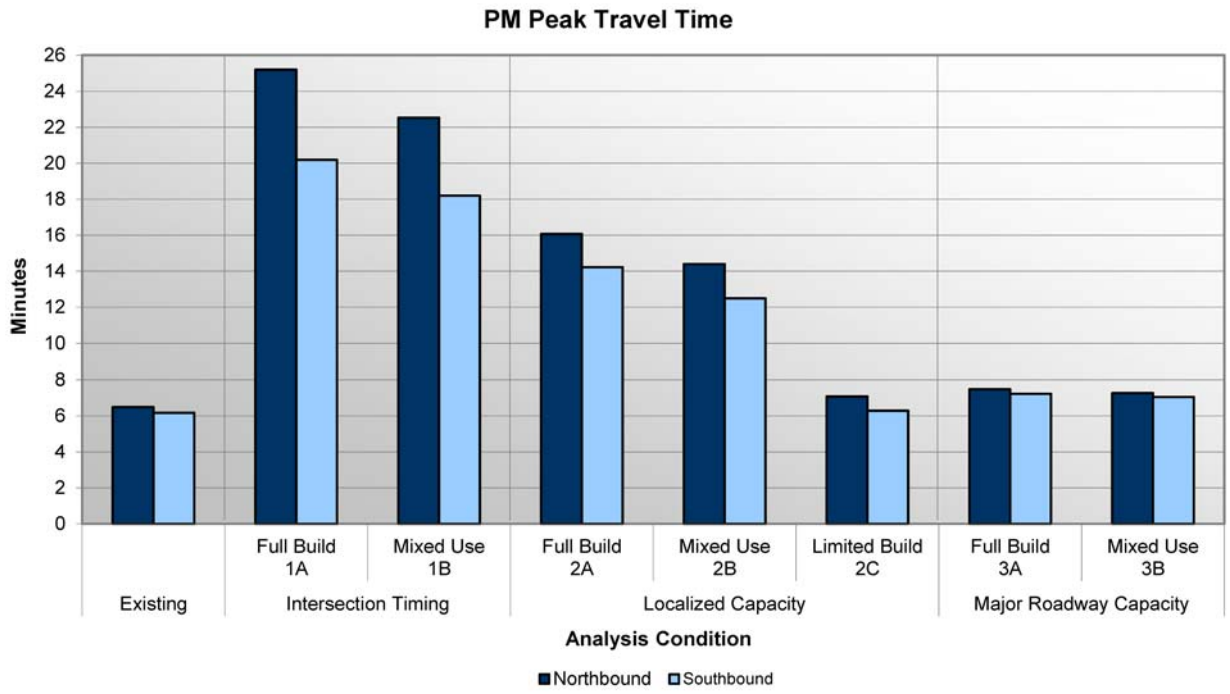
A. *Full Build 3-Lane Localized Capacity* – Modified roadway configuration at several intersections, future traffic volumes with 2 million SF of development and 2,500 residential units
B. *Mixed Use 3-Lane Localized Capacity* – Modified roadway configuration at several intersections, future traffic volumes with 2 million SF of development and 2,500 residential units with zoning modifications that reduce off-site vehicle trips.
C. *Limited Build 3-Lane Localized Capacity* – Modified roadway configuration at several intersections, future traffic volumes with 500,000 SF of development and 250 residential units.

3) Major Roadway Capacity Modifications

A. *Full Build 5-Lane Major Roadway Capacity* – Construction of a 5-lane segment south of Reynolds Road, modified roadway configuration at several intersections, future traffic volumes with 2 million SF of development and 2,500 residential units
B. *Mixed Use 5-Lane Major Roadway Capacity* – Construction of a 5-lane segment south of Reynolds Road, modified roadway configuration at several intersections, future traffic volumes with 2 million SF of development and 2,500 residential units with zoning modifications that encourage reduced or shared vehicle trips.

C. TRAFFIC OPERATIONS AND CAPACITY EVALUATIONS

Intersection Level of Service (LOS) and capacity analysis relate traffic volumes to the physical characteristics of an intersection. Intersection evaluations were made using Synchro version 8 software which automates the procedures contained in the *2010 Highway Capacity Manual.* One strategy identified in the Study Purpose is to "maintain acceptable traffic operations and travel times in the corridor". As such, the Advisory Committee identified travel time as a measure of effectiveness to evaluate the various land use development and capacity alternatives. Additional detailed analyses are contained in Appendix A. The following chart illustrates the PM peak hour travel times from Exit 17 to William Street for the eight conditions.



The following conclusions are based on the capacity analyses and travel time as a general performance measure:

- Allowing approximately 2 million SF of additional commercial development with 900 residential units (full build) and implementing signal timing changes in the corridor results in travel times that are 4 times longer than existing conditions.
- Allowing full build and implementing signal timing changes, spot intersection capacity modifications, and a 3-lane section from Reynolds Road south, results in travel times that are 2 ½ to 3 times longer than existing conditions.
- Promoting a development threshold of about 500,000 SF and 250 residential units (reduced build), implementing signal timing changes and spot capacity modifications results in travel times comparable to existing conditions; there will be increased congestion and delay at study intersections with this alternative.
- Allowing full build and constructing a 5-lane section between Exit 17 and Reynolds Road, implementing signal timing changes and spot intersection capacity modifications north of Route 197 results in travel times comparable to existing conditions.

A combination of roadway capacity improvements and land use strategies will be needed in the corridor as development occurs. US Route 9 can accommodate the vehicle trips associated with approximately 500,000 SF of additional commercial development and 250 residential units while maintaining travel times that are comparable to existing conditions. Obtaining these travel times will require implementation of intersection capacity modifications and a 3-lane segment south of Reynolds Road as identified in Chapter 4. Growth and development above this condition results in travels times that are longer than existing conditions, and the need for greater roadway capacity improvements.

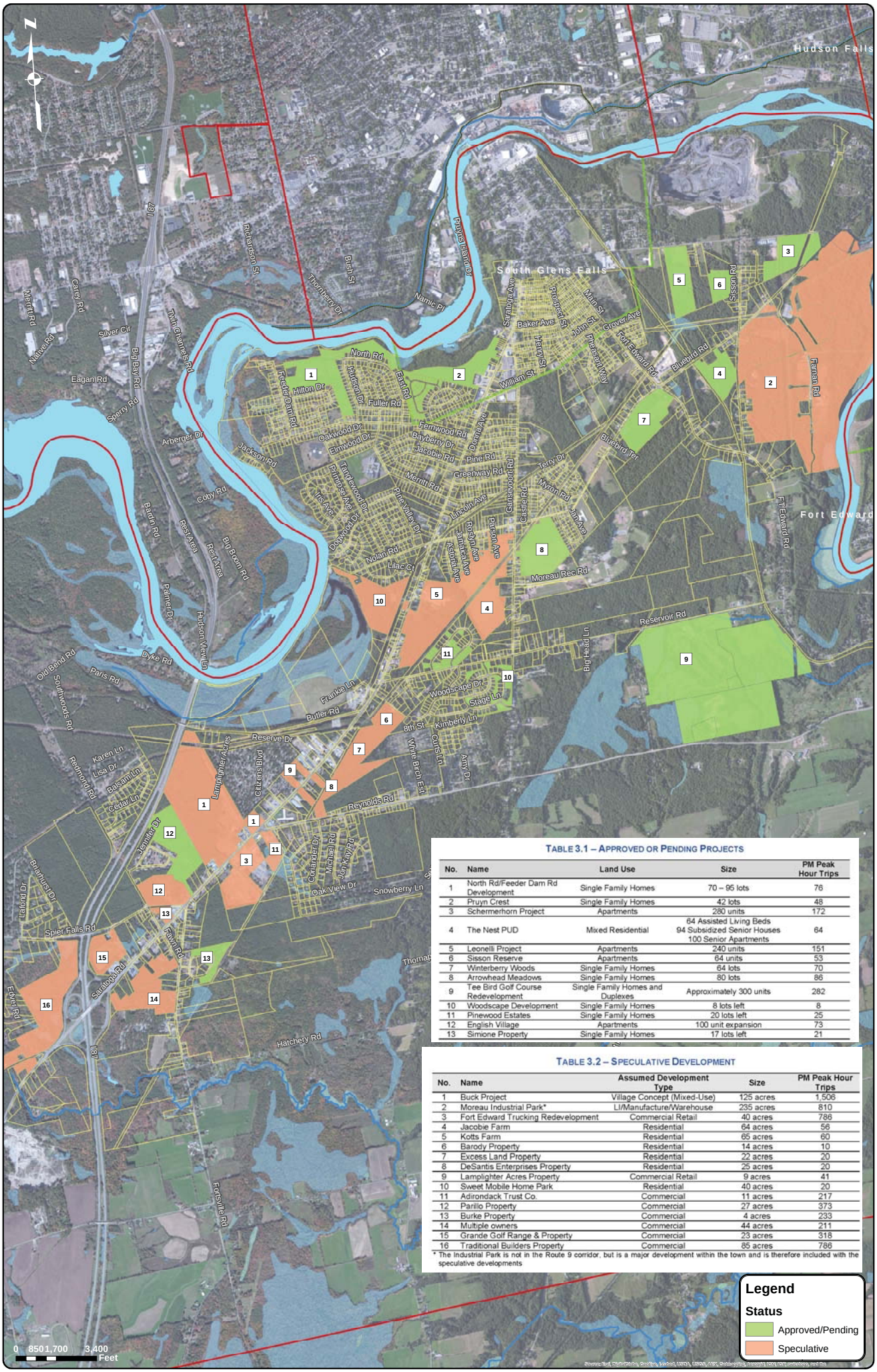


TABLE 3.1 – APPROVED OR PENDING PROJECTS

No.	Name	Land Use	Size	PM Peak Hour Trips
1	North Rd/Feeder Dam Rd Development	Single Family Homes	70 – 95 lots	76
2	Pruyn Crest	Single Family Homes	42 lots	48
3	Schermerhorn Project	Apartments	280 units	172
4	The Nest PUD	Mixed Residential	64 Assisted Living Beds 94 Subsidized Senior Houses 100 Senior Apartments	64
5	Leonelli Project	Apartments	240 units	151
6	Sisson Reserve	Apartments	64 units	53
7	Winterberry Woods	Single Family Homes	64 lots	70
8	Arrowhead Meadows	Single Family Homes	80 lots	86
9	Tee Bird Golf Course Redevelopment	Single Family Homes and Duplexes	Approximately 300 units	282
10	Woodscape Development	Single Family Homes	8 lots left	8
11	Pinewood Estates	Single Family Homes	20 lots left	25
12	English Village	Apartments	100 unit expansion	73
13	Simione Property	Single Family Homes	17 lots left	21

TABLE 3.2 – SPECULATIVE DEVELOPMENT

No.	Name	Assumed Development Type	Size	PM Peak Hour Trips
1	Buck Project	Village Concept (Mixed-Use)	125 acres	1,506
2	Moreau Industrial Park*	LI/Manufacture/Warehouse	235 acres	810
3	Fort Edward Trucking Redevelopment	Commercial Retail	40 acres	786
4	Jacobie Farm	Residential	64 acres	56
5	Kotts Farm	Residential	65 acres	60
6	Barody Property	Residential	14 acres	10
7	Excess Land Property	Residential	22 acres	20
8	DeSantis Enterprises Property	Residential	25 acres	20
9	Lamplighter Acres Property	Commercial Retail	9 acres	41
10	Sweet Mobile Home Park	Residential	40 acres	20
11	Adirondack Trust Co.	Commercial	11 acres	217
12	Parillo Property	Commercial	27 acres	373
13	Burke Property	Commercial	4 acres	233
14	Multiple owners	Commercial	44 acres	211
15	Grande Golf Range & Property	Commercial	23 acres	318
16	Traditional Builders Property	Commercial	85 acres	786

* The Industrial Park is not in the Route 9 corridor, but is a major development within the town and is therefore included with the speculative developments

Legend

Status

- Approved/Pending
- Speculative

Figure 3.1 Approved, Pending and Speculative Developments

CHAPTER 4. RECOMMENDATIONS

The purpose of this chapter is to summarize the land use and transportation recommendations in the corridor, and to establish the implementation strategies to achieve the corridor vision of enabling economic development and maintaining acceptable traffic operations. Several potential improvements were identified to address the study area needs, meet the project's goals and objectives, and reflect the community values represented over the course of the study. The recommendations evolved out of an involved decision-making process including technical analyses, agency coordination, and Advisory Committee input. A public meeting was held to seek community input on these recommendations.

The Corridor Plan summarizes the recommendations set forth in this chapter as illustrated on Figure 4.1. The following recommendations are organized beginning with zoning recommendations and then mode specific transportation improvements from small to larger scale. Alternatives include zoning and land use recommendations, multi-modal improvements, intersection and roadway capacity modifications, and potential long range interchange modification. Pursuing a Generic Environmental Impact Statement (GEIS) is then recommended as a next step to facilitate implementation and funding of the improvements.

A. ZONING AND DESIGN GUIDELINES

As noted in the Chapter 3, managing the development along US Route 9 will be necessary to maintain reasonable traffic operations and to limit traffic impacts associated with growth in the corridor. Promoting a development threshold of approximately 500,000 SF of commercial development and 250 residential units will result in travel times comparable to existing conditions with construction of select intersection capacity modifications as identified in Sections F and G of this chapter. Some intersection operation degradations may be deemed acceptable as a trade-off for economic development and avoiding costly major roadway segment capacity improvements.

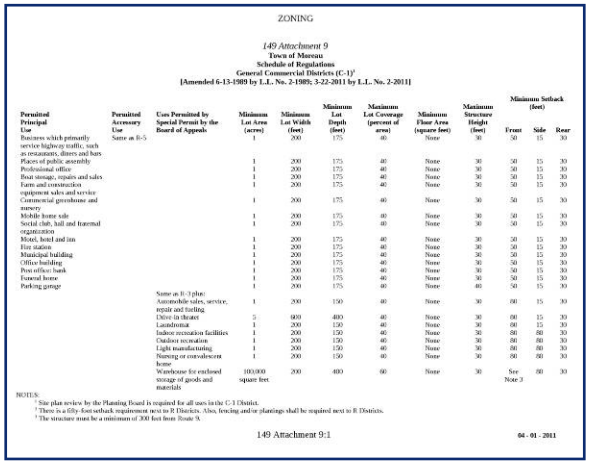
There is a potential conflict with land use strategies that promote a development threshold (limit development) and the Town's proposed sewer extension that would enable increased development. Close coordination between the two is needed, such that zoning and targeted growth areas align.

Zoning authority gives the Town the ability to implement many of the recommendations in this study. The following zoning recommendations, illustrated on Figure 4.2, are provided as refinements to the existing zoning, and require further action from the Town to finalize and adopt as Town policy. To minimize the excess future vehicle trips within the corridor, the density of the zoning would need to be reduced. It is noted that the existing commercial zoning district covers most of the study area:

- Redefine "Maximum Lot Coverage" – Revise the definition in zoning to include the percentage of total impervious area created by all structures, asphalt parking, or driveway areas (instead of just buildings). This maximum coverage will help to create more green space along the corridor, by ensuring that the entire lot is not paved and creating a more attractive corridor. Revise percentages in the area and bulk table to provide a maximum lot coverage for different districts to regulate the amount of full build-out potential as needed. Revise the zoning use schedule to limit or only permit the types of uses which would promote the desired quality of development along the corridor.

Uses which could be considered for removal or allowed only as special permit conditions include:

- boat and mobile home storage
- automotives sales or service
- warehouses
- quarries
- gravel pits
- mineral extraction
- light manufacturing



ZONING

149 Attachment 9
Town of Moreau
Schedule of Regulations
General Commercial Districts (C-1)[1]
[Amended 6-13-1989 by L.L. No. 2-1989; 3-22-2011 by L.L. No. 2-2011]

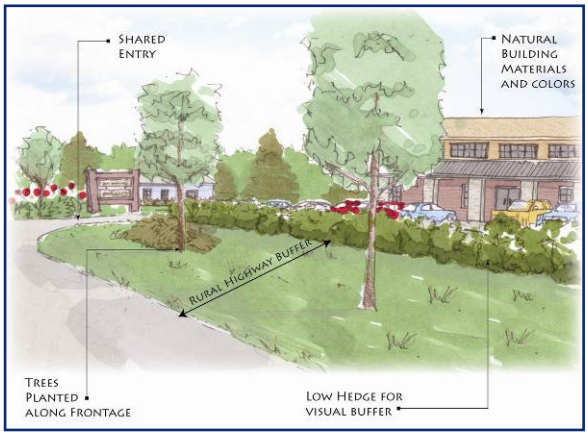
Permitted Principal Use	Permitted Accessory Use	Uses Permitted by Special Permit by the Board of Appeals	Minimum Lot Area (acres)	Minimum Lot Width (feet)	Minimum Lot Depth (feet)	Maximum Lot Coverage (percent of area)	Minimum Floor Area (square feet)	Maximum Structure Height (feet)	Minimum Setback (feet) Front	Side	Rear
Business which primarily service highway traffic, such as restaurants, diners and bars	Same as R-5		1	200	175	40	None	30	50	15	30
Places of public assembly			1	200	175	40	None	30	50	15	30
Professional office			1	200	175	40	None	30	50	15	30
Boat storage, repairs and sales			1	200	175	40	None	30	50	15	30
Farm and construction equipment sales and service			1	200	175	40	None	30	50	15	30
Commercial greenhouse and nursery			1	200	175	40	None	30	50	15	30
Mobile home sale			1	200	175	40	None	30	50	15	30
Social club, hall and fraternal organization			1	200	175	40	None	30	50	15	30
Motel, hotel and inn			1	200	175	40	None	30	50	15	30
Fire station			1	200	175	40	None	30	50	15	30
Municipal building			1	200	175	40	None	30	50	15	30
Office building			1	200	175	40	None	30	50	15	30
Post office/ bank			1	200	175	40	None	30	50	15	30
Funeral home			1	200	175	40	None	30	50	15	30
Parking garage			1	200	175	40	None	60	50	15	30
		Same as R-3 plus: Automobile sales, service, repair and fueling	1	200	150	40	None	30	60	15	30
		Drive-in theater	5	600	400	40	None	30	60	15	30
		Laundromat	1	200	150	40	None	30	60	15	30
		Indoor recreation facilities	1	200	150	40	None	30	60	60	30
		Outdoor recreation	1	200	150	40	None	30	60	60	30
		Light manufacturing	1	200	150	40	None	30	60	60	30
		Nursing or convalescent home	1	200	150	40	None	30	60	60	30
		Warehouse for enclosed storage of goods and materials	100,000 square feet	200	400	60	None	30	See Note 3	60	30

NOTES:
[1] Site plan review by the Planning Board is required for all uses in the C-1 District.
[2] There is a fifty-foot setback requirement next to R Districts. Also, fencing and/or plantings shall be required next to R Districts.
[3] The structure must be a minimum of 300 feet from Route 9.

149 Attachment 9:1 04 - 01 - 2011

Transportation benefit – reduce trips by virtue of the smaller overall allowed development size.

- <u>Define a "Minimum Front Yard Green Space Percentage"</u> – This is the total percentage of the front yard area between the property line and the front of the building which must be green space (lawn or landscaping). Defining minimum front yard landscaping requirements which must be met for future site plan approvals creates a more attractive corridor.



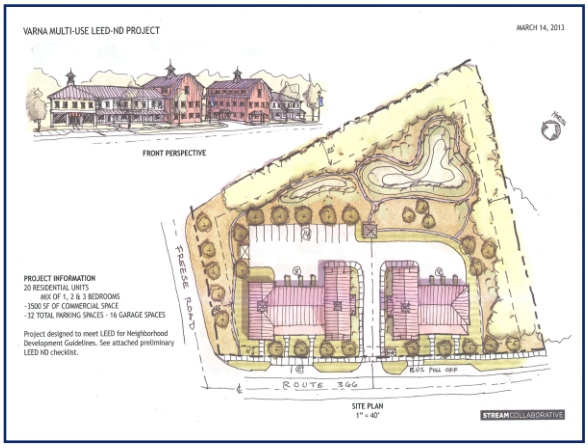
Transportation benefit – increasing the green space in the front yard will increase the driveway throat length, reducing the potential for site traffic to spill onto the mainline and interrupt travel on US Route 9. Landscaping makes the corridor more attractive and walkable, shifting trips from passenger vehicles to other modes.

- <u>Limit Front Yard Parking</u> – Limit the amount of parking permitted in the front yard for future site plan approvals, such as one or two rows of parking, and/or percent of total spaces. Additional parking can be provided at the side or rear. Maximum front yard parking limits could be waived if the front yard meets or exceeds a defined green space percentage. This change also serves to create a more attractive corridor.

Transportation benefit – limiting the amount of front yard parking reduces the potential for vehicles entering the site from stopping immediately to search for parking and potentially spilling back and interrupting mainline traffic flow.

- Require Cross-access Parking Lot Connections – Require new or existing parking lots to connect directly to adjacent parking lots for future site plan approvals, where deemed feasible, to promote cross-access circulation and reduce unnecessary short trips back onto US Route 9.

  Transportation benefit – interconnections help to minimize the number of turns to and from the mainline, reducing the number of vehicle trips on US Route 9.



- Define Front Yard Parking Setbacks – Define a minimum distance from the Right-of-Way where parking lots can be provided for new site plan approvals. Include provisions for this area to be used for streetscape amenities, sidewalks, and/or landscaping as appropriate to the zone.

  Transportation benefit – increases the driveway throat length reducing the potential for site traffic to spill onto the mainline and interrupt travel on US Route 9. Providing space for sidewalks can increase the pedestrian trips in the corridor while potentially reducing the vehicle trips.

- Define Specific Requirements for Retail Outdoor Storage Uses – This definition would apply to uses which can include but are not limited to the sales, storage or servicing of:
  - boats
  - mobile homes
  - automobiles
  - farm equipment
  - construction equipment
  - recreational vehicles
  - self-storage

  The requirements should limit excess outdoor storage and include minimum landscaping and property maintenance standards as well as limit the number and/or size of outdoor display areas.

- Adjust & Enforce Sign Standards – Review the sign standards to reflect an enhanced level of visual quality along the corridor, including but not limited:
  - Lighting of signs
  - Limiting the number and height of free standing monument signs
  - eliminating temporary banners and flags

Transportation benefit – reduces the visual clutter in a corridor which minimizes driver distraction associated with the environment.

- Require New Sidewalks – Require new sidewalks for the width of the front property line, or to a logical termini determined by the Town for new site plan approvals.

  Transportation benefit – increases the potential for pedestrian trips which can reduce the number of vehicle trips in the corridor.

- Design Guidelines – In addition to the above zoning changes, design standards or guidelines are also recommended to improve the overall architectural appearance of new commercial and residential structures built along the corridor. These guidelines would encourage or require use of certain exterior building materials, limit the scale and massing of building elements, and other requirements as deemed appropriate for the corridor.

The following zoning changes, although only administrative in nature, are also optionally recommended to improve the ease-of-use and functionality of Chapter 149 (Zoning) of the Town Code. These include:

- Rename and re-define many of the uses in the schedule of uses to provide a clear and concise list of what is permitted. This would remove vague terms such as "Businesses which primarily service highway traffic" which could be interpreted differently or be open to misuse. Each use name should be used consistently in each district and defined for clarity and to avoid misinterpretation.
- Revise the use schedules for each district to list all of the allowed uses. The existing zoning utilizes a "nested" system of only showing some of the allowable uses in each district "plus the allowable uses from" the previous district. This requires the user to look at the allowable uses in several districts to determine what is permitted in just one.

B. PEDESTRIAN AND BICYCLE ACCOMMODATIONS

Several pedestrian and cyclist recommendations were identified in the corridor. These recommendations will improve safety and comfort by providing accommodations for pedestrians and bicyclists and will also encourage more bicycle and pedestrian activity in the corridor. These recommendations include:

- Improve pedestrian accommodations at existing traffic signals by installing pedestrian traffic signals with countdown timers and ADA compliant crossings.
- Construct 5-foot sidewalks on both sides of US Route 9 in the residential section of the corridor between William Street and Bluebird Road.
- As additional development occurs, construct 5-foot sidewalks along at least one side of US Route 9 between developments and established residential uses.

- In the long-term, construct 5-foot sidewalks on the east and west sides of US Route 9 from Reynolds Road to Exit 17, or another logical southern terminus.
- Provide a pedestrian connection between the Lamplighter Acres residential area and the potential Buck Project to facilitate non-vehicle travel between these two uses.

- Prior to installation of the long term vision for sidewalks, provide or maintain 8 foot shoulders throughout the corridor to maximize space for bicycle trips and create a more comfortable pedestrian walking environment. Although narrower shoulders may be allowed according to the minimums in the NYSDOT Highway Design Manual, the Town wants to maintain wide shoulders in areas without sidewalks. (Design of any roadway improvements would follow NYSDOT practices).
- Carefully consider bicycle routing at intersections during intersection design to maximize safety and reduce potential vehicle/bicycle conflicts, especially where dedicated right-turn lanes are recommended, for example it may be desirable to carry a dedicated bicycle lane between the through lane and the right turn lane in these instances.
- Facilitate connections between the regional bike routes through signing, striping, and construction (as needed) of a bike connection between Glens Falls the Moreau State Park as shown on Figure 4.1.

Pedestrian and bicycle improvements may be implemented through developer mitigation and/or initiated through the Town and coordinated through state and federal funding opportunities.

C. TRANSIT ACCOMMODATIONS

As the Route 9 corridor develops, it will be desirable to extend and/or improve transit service in the corridor, initially focused on employment related trips during the peak hours, and then to other times of the day. GGFT maintains operating agreements with various municipalities to support local operation. In general, it is GGFT's policy to incorporate any service expansions into an updated local service agreement to help offset the local match portion of any operating and/or capital cost increase.

MOREAU - S. GLENS FALLS

WEEKDAY SERVICE

Ridge St. Terminal	Main St. & Saratoga Ave	S. G. F. High School	Bluebird Rd. & Gansevoort Rd.	Lamplighter Acres	Main St.& Fifth St.	Ridge St. Terminal
		-AM-				
6:30	6:39	6:43	6:49		6:52	6:55
8:00	8:09	8:13	8:19		8:23	8:25
L8:30	8:39	8:43	----	8:45	8:53	8:55
L10:00	10:09	10:13	----	10:15	10:23	10:25
		-PM-				
12:00	12:09	12:13	12:19		12:23	12:25
2:00	2:09	2:13	2:19		2:23	2:25
L4:00	4:09	4:13	4:19	4:15	4:23	4:25
5:10	5:19	5:23	5:29		5:33	5:35

All trips will travel the Second St./Riverview /Third St. if requested
All routes use Merritt Rd. and Feeder Dam Rd.
All 8:30 & 10:00am "L" trips travel to/from Lamplighter Acres, the 4:00 trip will only if requested using Rte 9 instead of Bluebird/Gansevoort Rds on return.

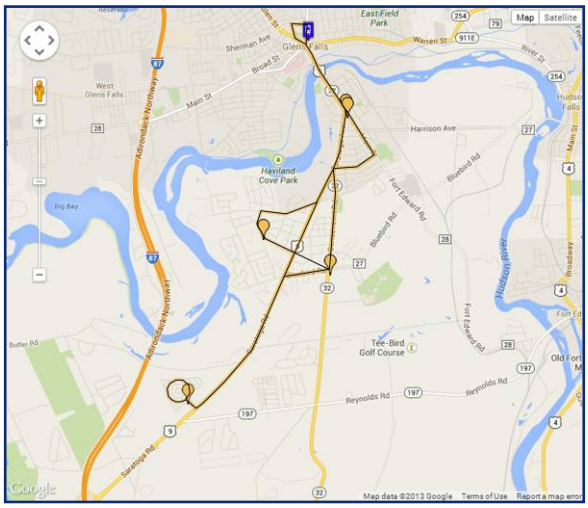
SATURDAY SERVICE

Ridge St. Terminal	Main St. & Saratoga Ave	S. G. F. High School	Bluebird Rd. & Gansevoort Rd.	Lamplighter Acres	Main St.& Fifth St.	Ridge St. Terminal
		-AM-				
L8:30	8:39	8:45	----	8:45	8:53	8:55
9:30	9:39	9:45	9:49		9:53	9:55
11:30	11:39	11:45	11:49		11:53	11:55
		-PM-				
1:30	1:39	1:45	1:49		1:53	1:55
3:30	3:39	3:45	3:49		3:53	3:55
L5:40	5:49	5:55	----	6:00	6:08	6:10

Operationally, the goal for Route 9 would be to improve the primary service along Route 9 with increased frequency, and minimize route deviation into new developments. Proper pedestrian connections should be made between the new development and the stop location on

street; it is important to incorporate sidewalk facilities and meaningful connections between the roadway and developments for any properties that are along the route.

If a large development were to occur in the corridor, it could be evaluated as the new southern terminus of the Route 5 service, with the buses circulating on-site and laying over briefly, before beginning north again.

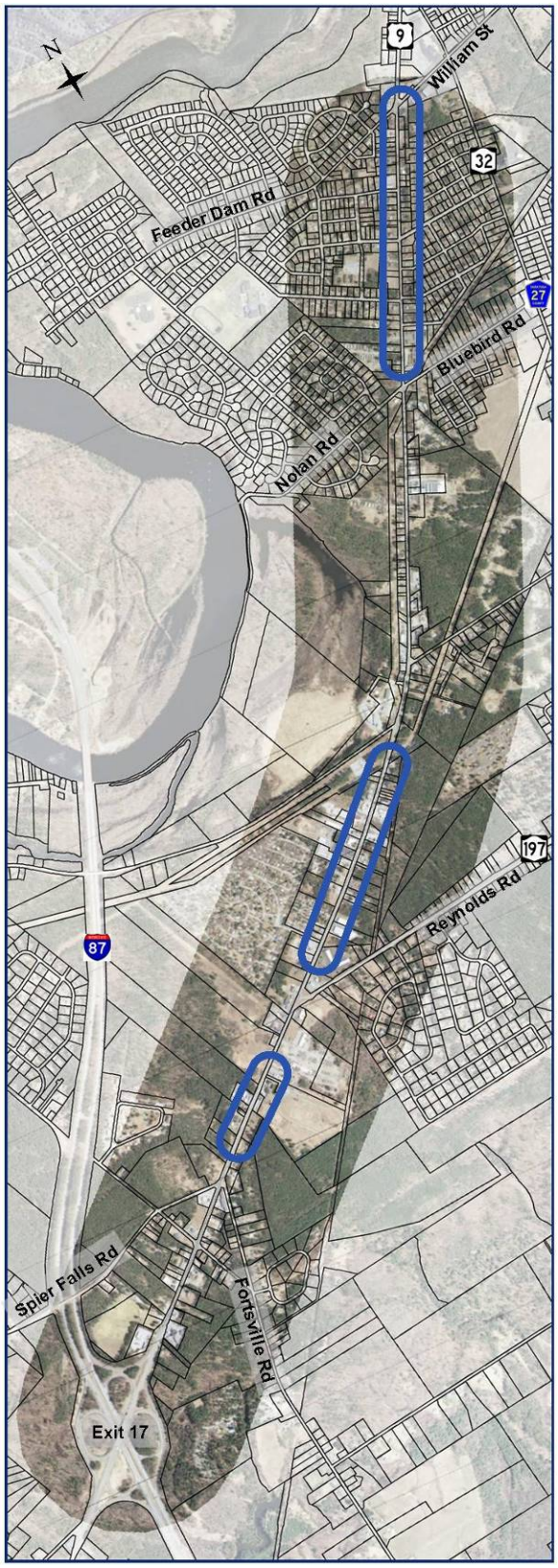


Additionally, as economic develop occurs in the corridor and demand for transit increases, there is a potential for a new service to extend between South Glens Falls, and downtown Saratoga Springs. The feasibility of such service will be evaluated by GGFT, CDTA, and SUNY Adirondack as part of on-going cooperative planning.

D. ACCESS IMPROVEMENTS

Access improvements on US Route 9 include eliminating passing zones and implementing access management along the corridor as development occurs. Eliminating passing zones by striping a double yellow line will reduce the potential for head-on and side-swipe collisions. Passing zone changes along US Route 9 require review and implementation by NYSDOT. The sections of Route 9 identified as candidates for elimination of passing zones are shown in the image to the right and include:

- All residential sections of the corridor
- Between Butler Road and Reynolds Road
- High volume commercial areas



Access management (shared access, driveway consolidation, channelization, and cross-connections) should be implemented along the corridor as projects are presented for SEQRA review. Access management improves the safety of the roadway by reducing the number of driveways and therefore potential conflict points. Operations are also improved by minimizing the number of locations that a vehicle can enter or exit the roadway. The Town could update its zoning and develop a checklist to facilitate review and implementation of access management policies. See the A/GFTC Access Management Guidebook for additional information. Based on a field walk, the locations that would benefit from access management are illustrated on Figure 4.2.

E. ROADWAY LIGHTING

Lighting along US Route 9 is limited through the corridor. Overhead cobra style lighting is provided on the east side of US Route 9 from Reynolds Road to Butler Road. North of Butler Road, one cobra style light is provided at each unsignalized intersection. South of Reynolds Road, no overhead roadway lighting is provided. During Advisory Committee meetings, the Town requested that overhead lighting be considered from Reynolds Road to Exit 17 to address lighting concerns in this area.

The American Association of State Highway and Transportation Officials (AASHTO) in conjunction with the Illuminating Engineering Society of North America (IESNA) has developed specific

lighting values which are considered adequate to illuminate a roadway. The recommended lighting values account for a roadway's functional class, general use, and pedestrian activity.

The section of US Route 9 between Reynolds Road and Exit 17 is classified as an Urban Principal Arterial with primarily commercial land use and low (< 10/hour) pedestrian activity. Based on the given characteristics, the AASHTO Roadway Lighting Design Guide recommends that proposed lighting along US Route 9 should maintain an average illuminance of 1.2 foot candles to adequately light the corridor.

If the town chooses to install lighting along the roadway, a comprehensive lighting analysis would be needed to ensure the recommended lighting levels will be met. A lighting study would be needed to confirm desired lighting levels. The Town could contract through National Grid to add the lighting once the analysis has been completed.

F. INTERSECTION ROADWAY AND OPERATIONAL MODIFICATIONS

Traffic signal timing should be optimized and maintained at all signalized intersections in the corridor to maximize the efficiency of the traffic signals. In addition, a number of intersection capacity modifications have been identified to accommodate future growth along US Route 9. The triggers for these improvements would be identified through traffic impact studies for private development, or a Generic Environmental Impact Statement (GEIS), showing changes in level-of-service and resulting mitigation. These modifications were identified in Chapter 3 as "localized capacity modifications" and should be implemented with future development on an as-needed basis consistent with Table 5.1. The specific intersection modifications are shown on Figure 4.3 and include:

- William Street/Feeder Dam Road – Construct eastbound and westbound left-turn lanes.
- Bluebird Road/Nolan Road – Construct northbound, southbound, and westbound left-turn lanes and a northbound right-turn lane
- Reynolds Road (NY Route 197) – Provide exclusive left-turn, through, and right-turn lanes on the northbound, southbound, westbound, and new eastbound driveway approach with full pedestrian accommodations
- Spier Falls Road/Fortsville Road – Construct southbound and westbound right-turn lanes with full pedestrian accommodations. An illustration of this conceptual modification is shown.

While not identified as a "localized capacity modification" in the analysis, Figure 4.3 illustrates re-aligning Butler Road across from Reservoir Road and installing a traffic signal with full pedestrian accommodations (a signal would require a signal warrants analysis before installation). A single signal controlled intersection provides greater corridor efficiency than two closely spaced off-set intersections. This change would create evenly spaced traffic signals and improved access to controlled intersections throughout the corridor. The realignment of Butler Road would occur largely on town owned property and may be more feasible if aligned in front of the town garage facility. The realignment would also impact private property. An alternative

alignment was identified that would relocate Reservoir Road opposite Butler Road and should also be considered if the concept is progressed.

The need for these improvements is being driven largely by future development traffic facilitated by the Town's proposed sewer extension, and as such implementation is expected to be primarily developer responsibility, coordinated by the Town through SEQR.

G. ROADWAY SEGMENT MODIFICATIONS

From a traffic volume standpoint, US Route 9 can be divided into two segments: 1) from Exit 17 to Reynolds Road (NY Route 197); and 2) from Reynolds Road to William Street/Feeder Dam Road.

Segment 1 from Exit 17 to Reynolds Road is the higher volume segment where preservation of transportation operations will be much more challenging as development occurs. Focusing on access management improvements and spot capacity modifications at intersections, along with improving bicycle and pedestrian accommodations will optimize operations to the extent possible. As future development occurs (below the recommended 500,000 SF threshold), the existing 3-lane sections on US Route 9 at Spier Falls Road and Reynolds Road can be connected with a continuous two-way center left turn lane between the two intersections resulting in a 3-lane segment from Exit 17 to Reynolds Road. North of Reynolds Road, the 3-lane section could continue to Lamplighter or Butler Road (depending on specific development), before transitioning back to a two-lane roadway. The two lane roadway would then be maintained to the Village line. The potential short-term roadway improvements on US Route 9 from Exit 17 to Reynolds Road include:

- Construction of a center turn lane between Spier Falls Road and Reynolds Road, triggered by development (short-term) which modifies the existing two lane facility to a three lane facility. This three lane section may continue beyond Reynolds Road as far as Butler Road depending on specific development.
- Installation of secondary vehicle access between the Buck Project and Butler Road to minimize traffic along US Route 9 (site specific timing).
- Consideration of a new parallel road on the west side of US Route 9 between Reynolds Road and Spier Falls Road to minimize vehicle trips on US Route 9 (with site specific development).

If development occurs (beyond approximately 500,000 square feet of new development) and over a longer period of time, additional roadway segment improvements will be needed, which include:

- Construction of a 5-lane roadway section from Reynolds Road to Exit 17 (long-term).

The Town should look to obtain land needed for these capacity modifications through the SEQR process. The following table shows the approximate existing and potential future ROW to aid the Town in site plan reviews, and potential strip property acquisitions.

TABLE 4.1 – POTENTIAL FUTURE RIGHT-OF-WAY NEEDS

Existing Traveled Way	Existing Travel Way[1]	Approximate Existing ROW[2]	Potential Future ROW Width[3]	Additional ROW
Interchange to Reynolds Rd	42 to 44 ft	72 ft	92 ft	20 ft
Reynolds Rd to Butler Rd	40 to 44 ft	Unknown	56 to 65 ft	Unknown
Butler Rd to William St	40 to 44 ft	58 ft	56 ft	0 ft

[1] Existing travel way includes travel lanes and shoulder
[2] Approximate existing ROW from NYSDOT PINs 1043.38 and 1043.52
[3] Potential Future ROW width includes sidewalk, maintenance strip, shoulders, and travel lanes

The roadway segment from Butler Road to William Street/Feeder Dam Road will continue to operate acceptably under the previously identified "full build" scenario with only a single travel lane in each direction, so no additional travel lanes are recommended through this segment. Under the long-term scenario with development greater than 500,000 SF and 250 residential units, the segment between Reynolds Road and Butler Road would be an area of transition from five lanes to two. Where curb and sidewalks are provided, a bicycle lane should be striped along both sides of the roadway. Where curb and sidewalks are not provided, an 8-foot shoulder should be provided for pedestrian and bicycle travel through the corridor (see previous bicycle and pedestrian discussion under Section 4.B). From the Interchange to Reynolds Road, the additional ROW will need to consider the cemetery on the east side of Route 9.
The primary responsibility for pursuing implementation of the proposed roadway segment improvements lies with the Town of Moreau.

H. INTERCHANGE MODIFICATIONS

Exit 17 is configured as a clover leaf design with free-flow access. This layout minimizes vehicle conflicts by channelizing traffic, which generally provides a higher capacity and higher speed operation between the interstate facility (I-87) and the arterial system (Route 9). The speed differential associated with the high speed interchange design and the developing corridor, with its commercial driveways and traffic signals, has historically been cause for concern. Recently, the specific issue of traffic exiting I-87 northbound and then merging with the Route 9 northbound through traffic, followed by the stop and go operation created at the Spier Falls Road intersection by the new traffic signal, has been perceived to be a potential safety concern. The clover leaf design also does not provide good accommodation for bicyclists or pedestrians traveling on Route 9 due to the merging, diverging and weaving in the area.

This study identifies and recommends a potential long-range interchange reconfiguration. The concept includes a half-clover design with traffic at the ramp termini with Route 9 controlled by traffic signals or roundabouts. This modification, as shown on Figure 4.4, would address speed differential concerns and bicycle and pedestrian needs without constraining capacity. The benefits of this reconfiguration include: 1) provision of a continuous bicycle and pedestrian path along the north side of Route 9 which would eliminate most conflicts with motor vehicle traffic and would enhance connectivity with established and developing elements of the regional multi-modal transportation network; 2) providing capacity for future traffic associated with corridor development; and 3) controlling traffic movements at intersections, which will moderate speeds and weaving concerns near the interchange. It is recognized that an alternate configuration may also accomplish the same objectives, which would be confirmed during design.

As identified in the *Project Scoping Report/Final Design Report* for PIN 1043.52 the primary objective was to "make geometric improvements to provide cost effective safety improvements on Route 9 from the Exit 17N Interchange to the Route 9/Spier Falls Road (CR24)/Fortsville Road (CR31) intersection." Additional analysis is required in order to determine if the

interchange warrants consideration as a safety improvement candidate. It is possible that Highway Safety Improvement Program (HSIP) funds may be available for the interchange if it is shown through future study that there is crash experience at the interchange correctable by the recommended reconfiguration. In lieu of Safety Funds, the Town should coordinate with A/GFTC and NYSDOT on implementation in the long term. Private sector mitigation from development in the corridor might also cover part of the project's costs.

I. GENERIC ENVIRONMENTAL IMPACT STATEMENT

This plan reveals a fundamental challenge that many communities face: planning for new economic development while ensuring that transportation facilities are capable of accommodating the increased demand associated with that development. The Town, the State, and the private sector, while promoting responsible and beneficial economic development, all share a responsibility for evaluating and maintaining reasonable transportation operations in the area. Local municipalities typically strive to limit obstacles to commercial development and provide maximum flexibility for economic growth. On the other hand, the State's transportation resources are severely constrained. The current public funding climate for transportation projects is focused on "preservation first" to keep the existing transportation system and bridges in a state of good repair. The gaps between transportation system needs and available funding are massive and well-documented; the State generally does not have the ability to address congestion and capacity issues resulting from new development. For this reason, it is unlikely that the State will program a capacity improvement project along Route 9 in the near future. State and federal transportation finance policy is evolving towards shared responsibility among private and public entities. This plan recommends an approach to addressing the difficult challenges of accommodating future development, extending public utilities, and preserving transportation system functionality that engages the development community but is driven primarily by local government.

A Generic Environmental Impact Statement (GEIS) is a tool that can be used to facilitate public/private cost sharing for implementation of transportation improvements. The purpose of a GEIS is to associate planned development or development alternatives with potential impacts and related mitigation measures. It establishes a mechanism to assess multiple potential impacts over a large geographical area. This serves two purposes. First, it allows for future development to reduce or bypass the lengthy environmental review process, as long as the proposed project is within the thresholds established in the GEIS. This saves potential developers significant time and money. In addition, a GEIS is a means for all involved parties to contribute towards the implementation of necessary improvements. Since the establishment of the GEIS process within the State Environmental Quality Review Act (SEQR) in 1982, several communities within New York State have utilized that process to develop financial strategies to allow cost sharing for infrastructure improvements.

This plan includes several short-term strategies for transportation improvements, including maintaining and optimizing existing traffic signals, dedicating or exacting right-of-way and mitigation from developers during the SEQR process, implementing spot shoulder widening and pedestrian improvements, changes to zoning regulations, and addressing parcel access modifications during the SEQR process. These recommendations are consistent with similar studies across the State that are intended to advance smaller-scale improvements in the absence of funding for major capital improvements. Long-term strategies include pursuing public and private funding for design and construction of large-scale projects like roadway widening and interchange modifications. All these recommendations and the associated support information can be easily merged into the GEIS process. Absent any unforeseen influx

of new transportation funding, such sharing of responsibilities will likely be required in order to implement the recommendations within this plan.

The anticipated growth forecasted within this plan is specifically linked to a future expansion of municipal sewer service along the U.S. Route 9 corridor, an initiative that lends itself well towards the implementation of a GEIS. The Town could establish a GEIS as a mechanism to create the initial engineering requirements and budgets as well as further investigate funding and implementation of transportation improvements in the corridor. The corridor is a logical location for the implementation of a mitigation fee system, as all development within the corridor will have an impact on traffic operations. The GEIS would help ensure that all growth, not just the largest or last-in projects, will contribute toward their fair share of improvements.

It is recommended that the Town initiate and prepare a GEIS which could be tied to the proposed sewer extension project. The GEIS would evaluate the cumulative transportation impact and confirm required mitigation for future land development in the corridor, and could be used as the mechanism to fund mitigation improvements. According to the Department of State Regulation “6 NYCRR, Part 617.10 Generic Environmental Impact Statement”, a GEIS may be used “to assess the environmental impacts of a number of separate actions in a given geographic area which, if considered singly, may have minor impacts, but if considered together may have significant impacts.” A GEIS will enable the Town to acquire and pool funds toward specific highway modification projects, when individual smaller developments may not show a transportation impact and may otherwise avoid transportation mitigation. A GEIS makes the rational nexus between a project’s relative impact (even if that is small), facilitates fair share mitigation, and gives the Town the legal authority to collect fees from private development to mitigate impacts. The GEIS would confirm transportation improvements, costs of new transportation infrastructure, establish the basis for a successful public/private cost sharing program, and provide the structure for implementation of the overall Corridor Plan.

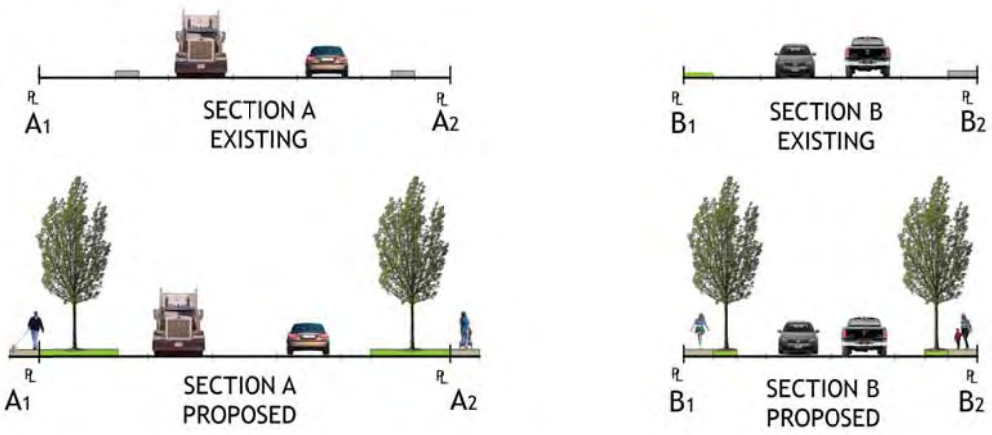
In turn, the GEIS will provide a "fast-tracked" approval process for potential developers. A GEIS can shorten the development approval process by months or even years, by reducing the amount of environmental analysis that must be completed by the developer. In essence, this analysis has already been completed. The developer must simply illustrate that the proposed development falls within the thresholds established by the GEIS. Indeed, many municipalities choose to establish a GEIS as a means to create "shovel-ready" development sites. Although there is a mitigation fee associated with the type of GEIS being proposed in this plan, the fee may be lower than the costs of undergoing the environmental and development approval process. In addition, once the GEIS is established, the fee formula will be a known factor, reducing the risk for developers to become mired in the approval process.

The normal means to finance a GEIS in the absence of a very large affected development or special circumstance (e.g.: Brownfield Opportunity Assessment or Local Waterfront Revitalization), is by local leverage borrowing or tax assessment coupled with repayment by mitigation fees assessed to future developments within the GEIS boundaries. There is a potential to couple local expenses with federal transportation monies through the A/GFTC Unified Planning Work Program or future federal Title 23 programs, depending upon how or when Congress restructures the current federal highway programs. Federal or State capital funds for such initiatives are not available without special legislation. The potential for some cost sharing thorough the Regional Economic Development Council Consolidated Grant programs should be examined, but that involves up-front work with the working committees to assess priority and immediacy of gain for jobs and economic opportunity. Given the transportation financing picture, having the Town take the significant steps to responsibly plan

for and accommodate future development could, in turn, indicate to the State agencies and the legislative branch its willingness to assume leadership and responsibility and therefore add legitimacy to requests for improvement funding assistance.

TYPICAL SECTIONS: EXISTING AND PROPOSED

SCALE: 1" = 10'



INTERCHANGE TO LAMPLIGHTER BLVD

LAMPLIGHTER BLVD TO WILLIAMS ST

TO GLENS FALLS BIKE ROUTES

TO POTTER ROAD AND MOREAU STATE PARK

WILLIAM ST

Potential for eastbound and westbound turn lanes

Evaluate elimination of passing zone in residential area. Maintain wide shoulders for bicyclists. Add 5' sidewalks.

B1

B2

BLUEBIRD RD

NOLAN RD

Provide full pedestrian accomodations and construct northbound / southbound left turn lanes. Also, westbound left turn and nourthbound right turn lanes may be needed as industrial park develops.

RESERVOIR RD

Possible future signal with Butler Rd realignment. Maintain minimum 1/2 mile signal spacing.

BUTLER RD

LAMPLIGHTER BLVD

Provide access to Butler Rd

Provide pedestrian connection

BUCKS PROPERTY

Pursue parallel roadway between Reynolds Rd and Spier Falls Rd on west side of Rt 9

REYNOLDS RD / ROUTE 197

Evaluate eliminating passing zone. Maintain two-lane roadway with wide shoulders.

Provide 4-way signal access to Buck Property. Add turn lanes at intersection.

Eliminate passing zone in high-volume commerical area. Add center turn lane as development occurs. Maintain wide shoulders for bicycles.

Provide amenities for pedestrian and cyclists at highway interchange

SPIER FALLS RD

A2

A1

FORTSVILLE RD

Add southbound and westbound right turn lanes.

Take measures to reduce speeds, such as realigning ramps.

LONG-TERM ITEM:

AT FULL BUILD, PROVIDE FIVE-LANE ROADWAY BETWEEN INTERCHANGE AND REYNOLDS ROAD

LEGEND

- POTENTIAL SIGNIFICANT TRAFFIC GENERATORS
- SIDEWALK PROPOSED OUTSIDE OF ROW TO ACCOMODATE FUTURE WIDENING
- 5' SIDEWALK WITHIN EXISTING R.O.W.
- NEW ROAD RECOMMENDED
- POSSIBLE PASSING ZONE ELIMINATION
- PROVIDE PEDESTRIAN ACCOMODATIONS AT TRAFFIC SIGNALS

EXIT 17 CORRIDOR STUDY
TOWN OF MOREAU, NY
JANUARY 15, 2014

FIGURE 4.1
CORRIDOR PLAN

NOT TO SCALE

BEHAN PLANNING AND DESIGN

LANDSCAPING

FRONT YARD STORAGE

ACCESS MANAGEMENT

RESIDENTIAL CHARACTER

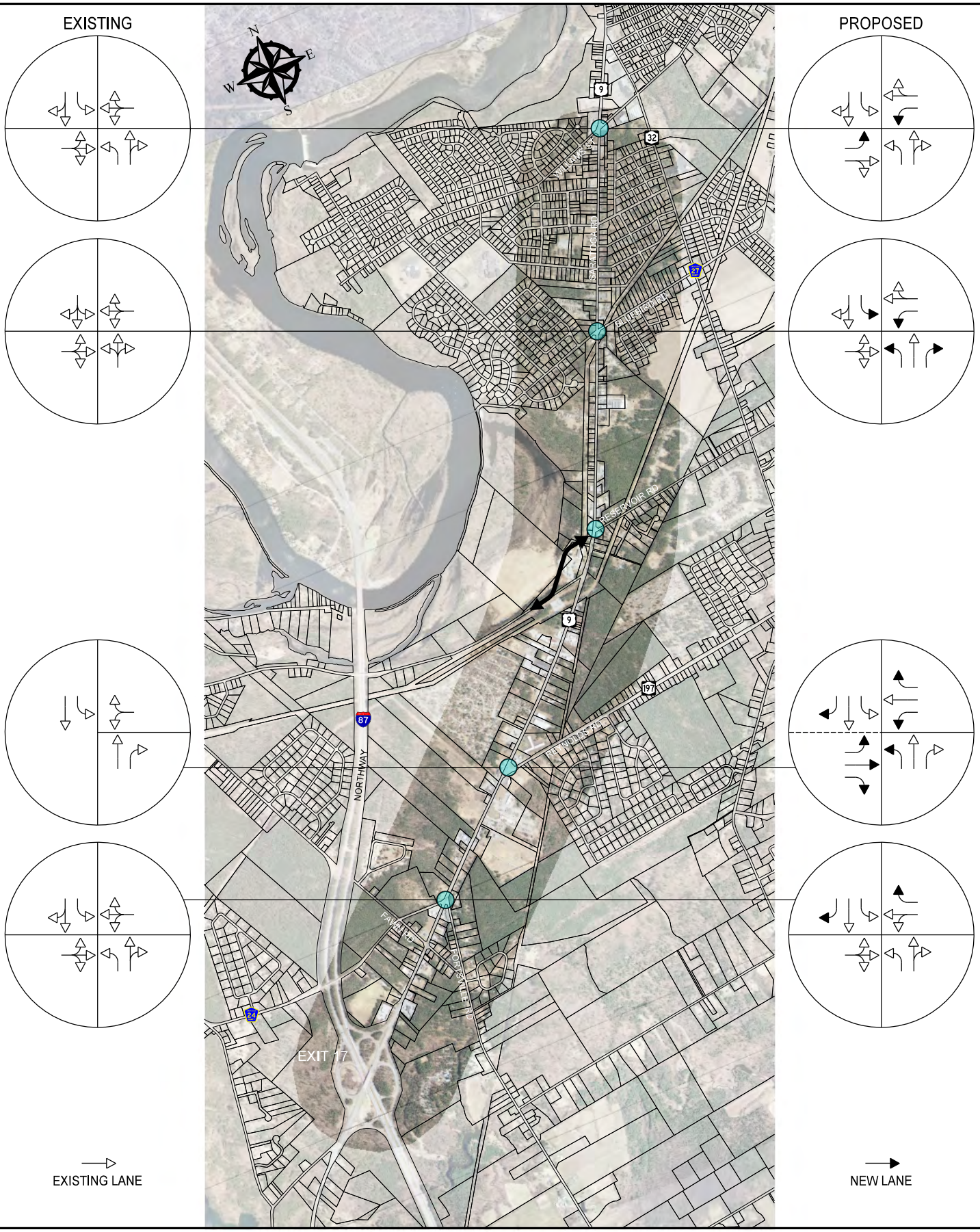
COMMERCIAL CHARACTER

EXIT 17 CORRIDOR STUDY
TOWN OF MOREAU, NY
JANUARY 15, 2014

FIGURE 4.2 - ACCESS MANAGEMENT AND PARCEL FRONTAGE OPPORTUNITIES

NOT TO SCALE

BEHAN PLANNING AND DESIGN



EXIT 17 CORRIDOR
TOWN OF MOREAU, NY
APRIL 8, 2014

FIGURE 4.3
LOCALIZED
CAPACITY MODIFICATIONS

Creighton Manning

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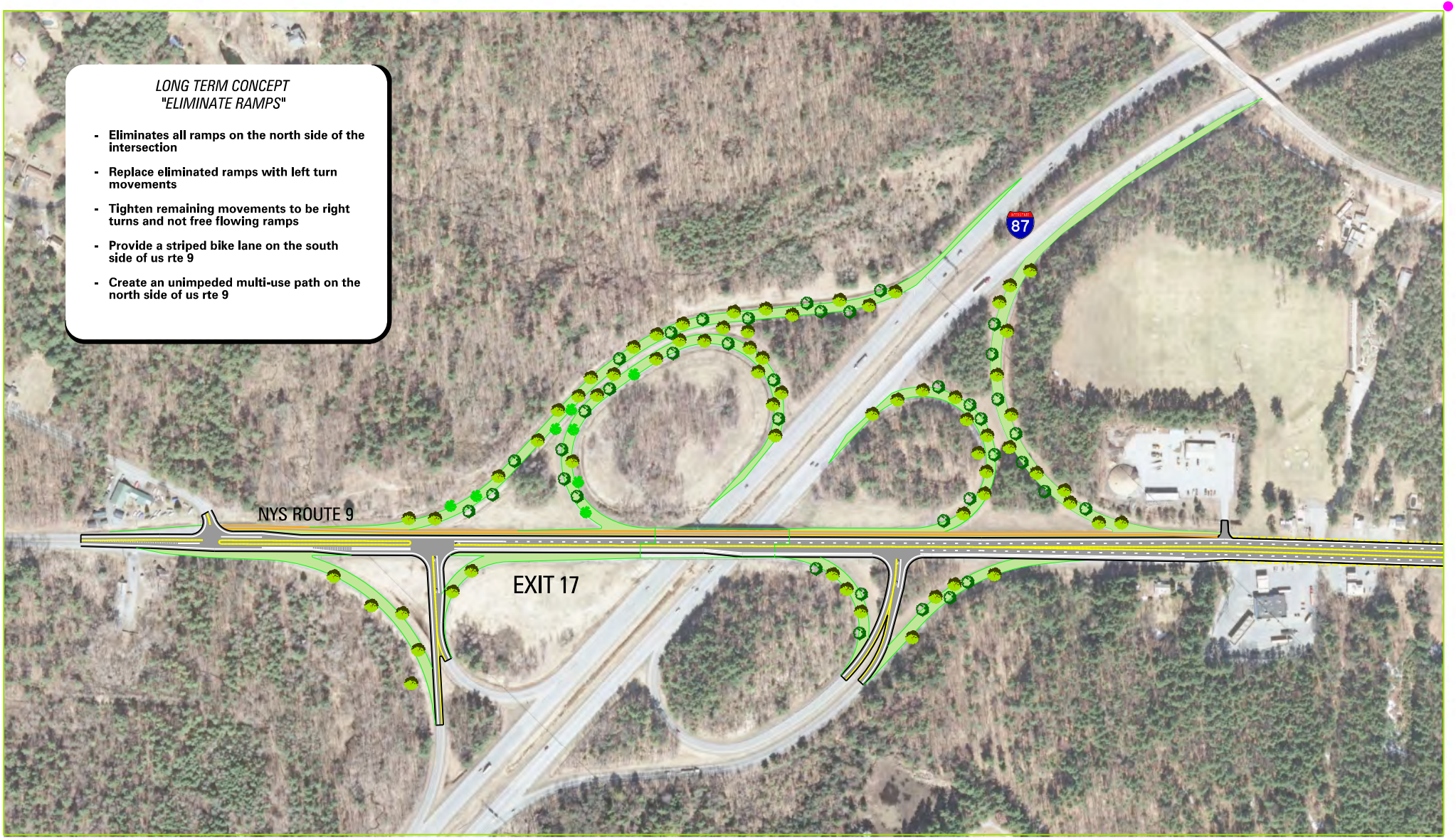


EXIT 17 CORRIDOR
TOWN OF MOREAU, NY
JANUARY 16. 2014

FIGURE 4.4
CONCEPTUAL LONG RANGE INTERCHAGE MODIFICATIONS

NOT TO SCALE

Creighton Manning

CHAPTER 5. IMPLEMENTATION

The first step toward implementation is for the Town to adopt this plan. That action will strengthen applications for future public funding of the various recommendations. Initiation of a GEIS is also a recommended short-term action. The overall recommendations and implementation timing and responsibilities are summarized in the following table.

TABLE 5.1 – SUMMARY OF PROJECTS AND IMPLEMENTATION

Corridor Recommendation Category	Scenario	Involved
A. Zoning		
Modify zoning code	Short-term	Town
B. Pedestrian and Bicycle Accommodations		
Install pedestrian traffic signals with count down timers and ADA compliant crossings at existing traffic signals	With development	Town, NYSDOT
Construct 5-foot sidewalks between Bluebird Rd and William St	Long-term	Town
Provide pedestrian connection between Lamplighter and the Buck Project	With development	Town, Private
Construct 5-foot sidewalk from future developments to logical termini	With development	Town, Private
Construct 5-foot sidewalks from Reynolds Rd to Exit 17	Long-term	Town
Provide 8 foot shoulders throughout corridor	Short-term	Town, NYSDOT
Provide a dedicated bicycle facility on Rt 9 through Exit 17 paired with interchange reconfiguration (Figure 4.3)	Long-term	Town, NYSDOT
Facilitate connections between regional bike routes	With development	AGFTC, Town, NYSDOT
C. Transit Accommodations		
Increase frequency on Rt 9 while minimizing route deviation	With development	GGFT
Create good pedestrian connections between the roadway and new and existing developments	With development	Town, Private
D. Access Improvements		
Eliminate passing zones in the corridor	Short-term	NYSDOT, Town
Implement access management practices along the corridor	Short-term	Town, Private
E. Roadway Lighting		
Install overhead lighting from Reynolds Road to Exit 17	Short-term	Town
F. Intersection Capacity Modifications		
Construct EB and WB left-turn lanes at William St/Feeder Dam Rd	With development	Town, Village, NYSDOT
Construct NB, SB, and WB left-turn lanes and a NB right-turn lane at Bluebird Rd/Nolan Rd	With development	Town, NYSDOT
Provide exclusive left-turn, through, and right-turn lanes on all approaches at Reynolds Rd/Buck Project	With development	Town, NYSDOT
Construct SB and WB right-turn lanes at Spier Falls Rd/Fortsville Rd	With development	Town, NYSDOT
Re-align Butler Rd across from Reservoir Rd and install a traffic signal	With development	Town, NYSDOT
G. Roadway Segment Modifications		
Construct a center turn lane between Spier Falls Rd and Reynolds Rd	With development	Town, NYSDOT
Provide a vehicle access between the Buck Project and Butler Rd	With development	Town
Pursue a parallel road on the west side of Rt 9 between Spier Falls Rd and Reynolds Rd	With development	Town, Private
Construct a 5-lane section from Reynolds Rd to Interchange 17	Long-term	Public / Private
H. Interchange Modifications		
Conduct an after study to determine the effectiveness of the safety improvements	Short-term	NYSDOT, AGFTC
Evaluate potential to modify interchange to accommodate future development in corridor	Long-term or With development	Town, AGFTC, NYSDOT
I. Generic Environmental Impact Statement		
Initiate GEIS	Short-term	Town

* Town, Private includes developer mitigation

Implementation of the transportation projects will require public/private cooperation and funding. Short-term strategies include maintaining and optimizing existing traffic signals, obtaining right-of-way and mitigation from developers during the SEQR process, implementing spot shoulder widening and pedestrian improvements, implementing zoning changes, and requiring parcel access modifications during the SEQR process. Long-term strategies include pursuing public and private funding for design and construction of large-scale projects like roadway widening and interchange modifications.

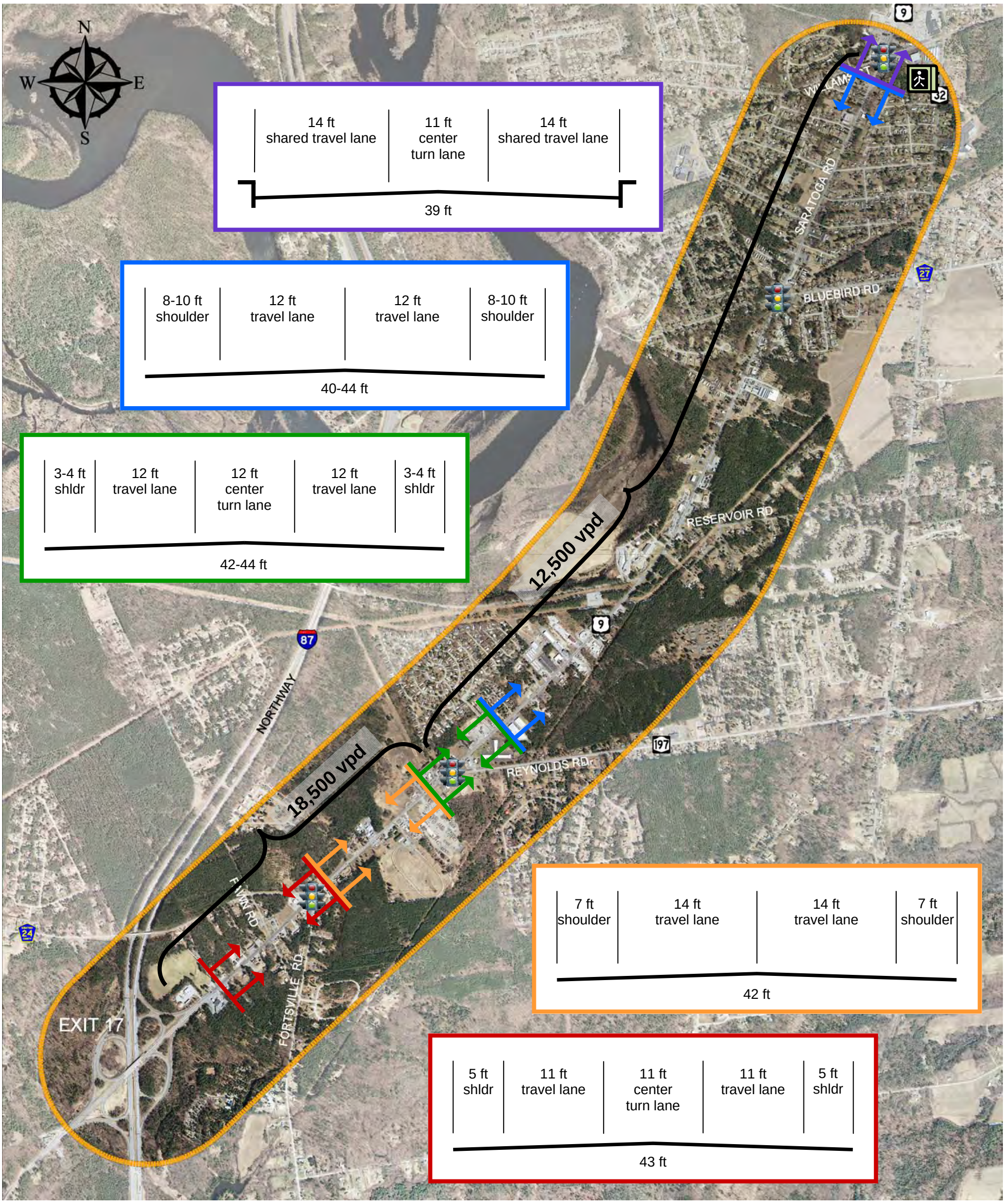
As noted previously, the anticipated growth within the corridor is primarily linked to extension of the Town's sewer service. The Town should establish a GEIS as a mechanism to facilitate funding and implementation of transportation improvements in the corridor. The purpose of a GEIS is to associate costs with mitigation measures and ensure that all involved parties, both private and public, contribute towards mitigating impacts. The US Route 9 corridor in Moreau is an ideal location for implementation of a mitigation fee system as all development within the corridor will have an impact on operations. The GEIS will ensure that all growth, not just the largest or last projects, will contribute toward their fair share of improvements.

APPENDIX A

TRAFFIC ANALYSES

EXIT 17 / US ROUTE 9
TRANSPORTATION AND LAND USE PLAN
TOWN OF MOREAU, SARATOGA COUNTY, NEW YORK

Exit 17 / US Route 9 Corridor Study
Existing Typical Sections



2-Lane Roadway Segment	AADT
Quaker Rd east of Ridge Rd (Rt 9L)	18,025
Aviation Rd west of Dixon Rd	9,625
CR 28 west of I-87 Exit 18	8,025
Rt 32 north of Rt 197	6,250
US Rt 9 south of I-87 Exit 17	6,325
Ballard Rd west of I-87 Exit 16	8,550
Ballard Rd east of I-87 Exit 16	4,325
NY Rt 50 north of Wilton Mall	13,150
US Rt 9 north of SS city line	13,700

3-Lane Roadway Segment	AADT
Main St east of I-87 Exit 18	8,750
US Rt 9 north of NY Rt 50	13,700
US Rt 5 west of Balltown Rd	18,925

4 Lane & > Roadway Segment	AADT
Quaker Rd east of I-87 Exit 19	26,542
Quaker Rd east of US Rt 9	21,325
NY Rt 50 east of I-87 Exit 15	27,325
NY Rt 50 west of I-87 Exit 15	29,725

Table – Intersection Level of Service Summary

Intersection		Control	AM Peak Hour				
			2013 Existing	Null Timing Improvements	Null Timing Improvements (10% Reduction)	Null Spot Improvements	Null Spot Improvements (10% Reduction)
Route 9/Feeder Dam Rd/Williams St		S					
Feeder Dam Rd EB	LTR		C (25.7)	C (25.6)	C (25.6)	--	--
	L		--	--	--	C (30.2)	C (27.2)
	TR		--	--	--	C (27.2)	C (24.4)
Williams St WB	LTR		C (22.2)	C (24.0)	C (23.8)	--	--
	L		--	--	--	C (32.9)	C (29.0)
	TR		--	--	--	C (25.1)	C (22.7)
US Route 9 NB	LTR		A (6.1)	--	--	--	--
	L		--	B (14.1)	B (13.1)	B (11.5)	B (10.7)
	T		--	B (13.0)	B (10.9)	A (9.2)	A (8.4)
US Route 9 SB	LTR		A (5.5)	--	--	--	--
	L		--	B (17.9)	B (15.3)	B (14.6)	B (12.6)
	T		--	A (9.7)	A (9.1)	A (7.6)	A (7.3)
Overall			B (10.6)	B (14.3)	B (13.2)	B (12.8)	B (11.7)
Route 9/Nolan Rd/Bluebird Rd		S					
Nolan Rd EB	LTR		B (18.2)	C (21.4)	C (21.3)	C (25.8)	C (25.7)
Bluebird Rd WB	LTR		C (21.0)	D (49.1)	D (43.2)	--	--
	L		--	--	--	F (132)	F (111)
	TR		--	--	--	C (23.3)	C (23.3)
US Route 9 NB	LTR		B (12.3)	F (306)	F (280)	--	--
	L		--	--	--	C (34.8	C (29.9)
	T		--	--	--	D (40.5)	C (32.2)
	R		--	--	--	A (6.4)	A (6.2)
US Route 9 SB	LTR		A (9.0)	F (110)	F (91.5)	--	--
	L		--	--	--	D (40.0)	D (36.6)
	TR		--	--	--	C (28.5)	C (22.6)
Overall			B (13.2)	F (187)	F (168)	D (40.2)	C (33.2)
Route 9/NY Route 197		S					
Driveway EB	L		--	F (436)	F (354)	E (59.2)	E (55.9)
	T		--	C (26.9)	C (26.8)	D (52.7)	D (52.4)
	R		--	C (25.5)	C (25.4)	F (83.1)	E (69.3)
NY Route 197 WB	LR		C (34.0)	F (233)	F (214)	--	--
	L		--	--	--	F (228)	F (220)
	T		--	--	--	C (31.4)	C (31.2)
	R		--	--	--	C (24.0	C (24.0)
US Route 9 NB	L		--	F (139)	F (109)	F (116)	F (88.7)
	T		B (19.9)	F (163)	F (127)	F (106)	F (78.1)
	R		B (17.4)	B (19.3)	B (19.2)	B (10.8)	B (10.7)
US Route 9 SB	L		C (23.8)	C (31.0)	C (30.1)	D (35.1)	C (32.9)
	T		B (19.0)	F (294)	F (272)	F (231)	F (211)
	R		--	C (21.5)	C (21.3)	B (18.5)	B (18.3)
Overall			C (24.3)	F (200)	F (177)	F (149)	F (133)
Route 9/Spiers Fall Rd/Fortsville Rd		S					
Spiers Fall Rd EB	LTR		D (37.8)	E (55.9)	D (52.2)	D (49.5)	D (48.4)
Fortsville Rd WB	LT		D (36.6)	D (39.9)	D (39.7)	D (37.4)	D (37.6)
	R		--	--	--	D (41.6)	D (41.3)
US Route 9 NB	L		C (22.7)	C (27.7)	C (27.7)	C (27.7)	C (27.6)
	TR		B (13.3)	F (283)	F (248)	F (259)	F (220)
US Route 9 SB	L		A (8.7)	E (55.3)	D (47.1)	D (48.6)	D (40.9)
	TR		F (46.3)	F (358)	F (339)	--	--
	T		--	--	--	F (271)	F (251)
	R		--	--	--	A (7.2)	A (6.9)
Overall			C (33.2)	F (292)	F (269)	F (231)	F (206)

Table – Intersection Level of Service Summary

Intersection		Control	PM Peak Hour				
			2013 Existing	Null Timing Improvements	Null Timing Improvements (10% Reduction)	Null Spot Improvements	Null Spot Improvements (10% Reduction)
Route 9/Feeder Dam Rd/Williams St		S					
Feeder Dam Rd EB	LTR		C (24.8)	C (29.5)	C (29.4)	--	--
	L		--	--	--	D (45.8)	D (45.7)
	TR		--	--	--	D (38.9)	D (38.5)
Williams St WB	LTR		C (25.1)	D (43.1)	D (40.0)	--	--
	L		--	--	--	E (79.0)	E (67.8)
	TR		--	--	--	D (38.6)	D (38.5)
US Route 9 NB	LTR		A (6.8)	--	--	--	--
	L		--	E (57.7)	D (53.1)	D (41.0)	C (34.2)
	T		--	F (87.2)	F (65.3)	D (37.9)	C (26.3)
US Route 9 SB	LTR		A (8.0)	--	--	--	--
	L		--	D (42.6)	D (42.6)	D (54.3)	D (41.1)
	T		--	F (55.2)	F (44.6)	C (22.2)	B (18.6)
Overall			B (11.0)	E (66.1)	D (52.1)	C (34.9)	C (27.6)
Route 9/Nolan Rd/Bluebird Rd		S					
Nolan Rd EB	LTR		B (17.7)	C (22.2)	C (22.1)	C (32.3)	C (31.8)
Bluebird Rd WB	LTR		B (19.5)	F (175)	F (136)	--	--
	L		--	--	--	F (531)	F (418)
	TR		--	--	--	C (34.4)	C (33.6)
US Route 9 NB	LTR		A (9.1)	F (612)	F (539)	--	--
	L		--	--	--	F (191)	F (168)
	T		--	--	--	E (68.0)	F (48.4)
	R		--	--	--	A (4.4)	A (4.3)
US Route 9 SB	LTR		A (7.2)	F (198)	F (173)	--	--
	L		--	--	--	D (48.5)	D (48.5)
	TR		--	--	--	E (65.0)	F (47.6)
Overall			A (9.8)	F (380)	F (331)	F (112)	F (85.5)
Route 9/NY Route 197		S					
Driveway EB	L		--	F (1151)	F (996)	F (124)	F (93.4)
	T		--	C (30.5)	C (30.3)	D (54.8)	D (54.2)
	R		--	C (30.2)	C (29.1)	F (206.4)	F (155)
NY Route 197 WB	LR		C (24.0)	F (247)	F (212)	--	--
	L		--	--	--	F (215)	F (198)
	T		--	--	--	D (38.3)	D (38.0)
	R		--	--	--	C (28.8)	C (28.8)
US Route 9 NB	L		--	F (195)	F (148)	F (212)	F (163)
	T		C (24.3)	F (383)	F (339)	F (258)	F (224)
	R		B (14.5)	C (20.9)	C (20.7)	A (8.6)	A (8.6)
US Route 9 SB	L		C (29.1)	E (72.8)	E (58.9)	F (165)	F (137)
	T		B (10.7)	F (430)	F (377)	F (322)	F (275)
	R		--	C (21.0)	C (20.7)	B (17.6)	B (17.4)
Overall			B (19.2)	F (331)	F (289)	F (226)	F (193)
Route 9/Spiers Fall Rd/Fortsville Rd		S					
Spiers Fall Rd EB	LTR		D (36.7)	D (54.1)	D (48.5)	D (54.4)	D (50.3)
Fortsville Rd WB	LT		D (36.8)	D (39.4)	D (38.6)	D (37.8)	D (37.4)
	R		--	--	--	D (41.0)	D (39.9)
US Route 9 NB	L		A (8.8)	C (26.7)	C (36.4)	C (27.1)	C (27.0)
	TR		B (19.9)	F (452)	F (405)	F (409)	F (367)
US Route 9 SB	L		B (14.0)	E (56.1)	D (50.8)	E (57.4)	D (52.4)
	TR		B (12.8)	F (441)	F (393)	--	--
	T		--	--	--	F (303)	F (263)
	R		--	--	--	A (8.1)	A (8.0)
Overall			B (18.3)	F (396)	F (354)	F (301)	F (268)

Measures of Effectiveness on US Route 9 (PM Peak Hour)

Measure of Effectiveness	Actual	Synchro Model Results							
		Existing	Timing Imp (3-Lane)		Spot Imp (3-Lane)			Spot Imp (5-Lane)	
			Full Build	Mixed Use	Full Build	Mixed Use	Max Build	Full Build	Mixed Use
Total Delay (hours)	--	32	1,039	854	656	523	70	190	153
Travel Time									
Northbound	7:39	6:49	25:20	22:53	16:07	14:40	7:08	7:48	7:27
Southbound	5:53	6:17	20:19	18:20	14:22	12:49	6:29	7:23	7:05
Performance Index	--	44	1,069	882	685	550	86	220	180
CO Emissions (kg)	--	20.7	97.6	85.8	77.6	68.4	30.2	53.9	49.4
Fuel Consumed (gal)	--	295	1,396	1,227	1,110	979	433	770	707
Overall Speed (mph)									
Northbound	31.5	35.4	9.5	10.5	15.0	16.5	33.8	30.9	32.4
Southbound	41.0	38.4	11.9	13.2	16.8	18.8	37.2	32.7	34.1

APPENDIX B

TRAFFIC VOLUMES

EXIT 17 / US ROUTE 9
TRANSPORTATION AND LAND USE PLAN
TOWN OF MOREAU, SARATOGA COUNTY, NEW YORK

Volumes		
	2008	1.012563
	2009	1.010038
	2010	1.007519
	2013	1
AM Peak Hour		0.25% per year

Null

Intersection	Raw	2013	2013	Approved/Pending				Future	Speculative (excludes Industrial Park)				Industrial Park				Future
	Existing	Existing	Existing	Distribution		Assignment		w/out	Distribution		Assignment		Distribution		Assignment		w/
			Round	in	out	in	out	sewer	in	out	in	out	in	out	in	out	sewer
						102	306				1147	854			477	105	
US Route 9/Feeder Dam/Williams (2010)																	
Feeder Dam EB L	124	125	125			0	0	125			0	0			0	0	125
T	43	43	45			0	0	45			0	0			0	0	45
R	8	8	10	2%		0	0	10	2%		25	0			0	0	35
Williams WB L	49	49	50	5%		5	0	55	5%		55	0			0	0	110
T	21	21	20			0	0	20			0	0			0	0	20
R	13	13	15			0	0	15			0	0			0	0	15
US Route 9 NB L	4	4	5		2%	0	5	10		2%	0	15			0	0	25
T	408	411	410		17%	0	50	460		25%	0	215			0	0	675
R	20	20	20		5%	0	15	35		5%	0	45			0	0	80
US Route 9 SB L	4	4	5			0	0	5			0	0			0	0	5
T	270	272	270	17%		15	0	285	25%		285	0			0	0	570
R	54	54	55			0	0	55			0	0			0	0	55
US Route 9/Nolan/Bluebird (2008)																	
Nolan EB L	56	57	55			0	0	55			0	0			0	0	55
T	33	33	35			0	0	35			0	0			0	0	35
R	65	66	65	2%		0	0	65	2%		25	0			0	0	90
Bluebird WB L	130	132	130	6%		5	0	135	6%		70	0		20%	0	20	225
T	19	19	20			0	0	20			0	0			0	0	20
R	86	87	85			0	0	85			0	0			0	0	85
US Route 9 NB L	26	26	25		2%	0	5	30		2%	0	15			0	0	45
T	498	504	505		24%	0	75	580		32%	0	275			0	0	855
R	69	70	70		6%	0	20	90		6%	0	50	20%		95	0	235
US Route 9 SB L	36	36	35			0	0	35			0	0			0	0	35
T	384	389	390	24%		25	0	415	32%		365	0			0	0	780
R	19	19	20			0	0	20			0	0			0	0	20
US Route 9/Route 197 (2013)																	
Site Driveway EB L	0	0	0			0	0	0			0	0			0	0	0
T	0	0	0			0	0	0			0	0			0	0	0
R	0	0	0			0	0	0			0	0			0	0	0
Route 197 WB L	418	418	420			0	0	420			0	0			0	0	420
T	0	0	0			0	0	0			0	0			0	0	0
R	30	30	30	2%		0	0	30	10%		115	0			0	0	145
US Route 9 NB L	0	0	0			0	0	0			0	0			0	0	0
T	254	254	255	50%		50	0	305	50%		575	0	20%		95	0	975
R	207	207	205			0	0	205			0	0			0	0	205
US Route 9 SB L	22	22	20		2%	0	5	25		10%	0	85			0	0	110
T	444	444	445		50%	0	155	600		50%	0	425		20%	0	20	1045
R	0	0	0			0	0	0			0	0			0	0	0
US Route 9/Spier Falls/Fortsville (2009)																	
Spier Falls EB L	61	62	60	5%		5	0	65	5%		55	0			0	0	120
T	0	0	0			0	0	0			0	0			0	0	0
R	13	13	15			0	0	15			0	0			0	0	15
Fortsville WB L	24	24	25			0	0	25			0	0			0	0	25
T	2	2	0			0	0	0			0	0			0	0	0
R	69	70	70	5%		5	0	75	5%		55	0			0	0	130
US Route 9 NB L	7	7	5			0	0	5			0	0			0	0	5
T	599	605	605	40%		40	0	645	40%		460	0	20%		95	0	1200
R	0	0	0			0	0	0			0	0			0	0	0
US Route 9 SB L	25	25	25		5%	0	15	40		5%	0	45			0	0	85
T	872	881	880		40%	0	120	1000		40%	0	340		20%	0	20	1360
R	45	45	45		5%	0	15	60		5%	0	45			0	0	105
US Route 9/I-87 Exit 17 NB Off to Rt 9 NB (2009)																	
I-87 NB Off to Rt 9 NB WB R	300	303	305	15%		15	0	320	15%		170	0	10%		50	0	540
US Route 9 NB T	290	293	295	25%		25	0	320	25%		285	0	10%		50	0	655
US Route 9 SB T	741	748	750		30%	0	90	840		30%	0	255		10%	0	10	1105
US Route 9/I-87 Exit 17 NB On from Rt 9 SB (2009)																	
US Route 9 NB T	590	596	595	40%		40	0	635	40%		460	0	20%		95	0	1190
US Route 9 SB T	741	748	750		30%	0	90	840		30%	0	255		10%	0	10	1105
R	272	275	275		10%	0	30	305		10%	0	85		10%	0	10	400

Spot Improvements / **Zoning Reduction (10%)**

Intersection	Spot Improvements: Speculative (excludes Industrial Park)				Industrial Park				Future	Zoning Reduction (10%): Speculative (excludes Industrial Park)				Industrial Park				Future
	Distribution		Assignment		Distribution		Assignment		w/	Distribution		Assignment		Distribution		Assignment		w/
	in	out	in	out	in	out	in	out	sewer	in	out	in	out	in	out	in	out	sewer
			285	215			120	25				1030	770			430	90	
US Route 9/Feeder Dam/Williams (2010)																		
Feeder Dam EB L			0	0			0	0	125			0	0			0	0	125
T			0	0			0	0	45			0	0			0	0	45
R	2%		5	0			0	0	15	2%		20	0			0	0	30
Williams WB L	5%		15	0			0	0	70	5%		50	0			0	0	105
T			0	0			0	0	20			0	0			0	0	20
R			0	0			0	0	15			0	0			0	0	15
US Route 9 NB L		2%	0	5			0	0	15		2%	0	15			0	0	25
T		25%	0	55			0	0	515		25%	0	195			0	0	655
R		5%	0	10			0	0	45		5%	0	40			0	0	75
US Route 9 SB L			0	0			0	0	5			0	0			0	0	5
T	25%		70	0			0	0	355	25%		260	0			0	0	545
R			0	0			0	0	55			0	0			0	0	55
US Route 9/Nolan/Bluebird (2008)									0									
Nolan EB L			0	0			0	0	55			0	0			0	0	55
T			0	0			0	0	35			0	0			0	0	35
R	2%		5	0			0	0	70	2%		20	0			0	0	85
Bluebird WB L	6%		15	0		20%	0	5	155	6%		60	0		20%	0	20	215
T			0	0			0	0	20			0	0			0	0	20
R			0	0			0	0	85			0	0			0	0	85
US Route 9 NB L		2%	0	5			0	0	35		2%	0	15			0	0	45
T		32%	0	70			0	0	650		32%	0	245			0	0	825
R		6%	0	15	20%		25	0	130		6%	0	45	20%		85	0	220
US Route 9 SB L			0	0			0	0	35			0	0			0	0	35
T	32%		90	0			0	0	505	32%		330	0			0	0	745
R			0	0			0	0	20			0	0			0	0	20
US Route 9/Route 197 (2013)									0									
Site Driveway EB L		10%	0	20			0	0	20		10%	0	75			0	0	75
T		5%	0	10			0	0	10		5%	0	40			0	0	40
R		15%	0	30			0	0	30		15%	0	115			0	0	115
Route 197 WB L			0	0			0	0	420			0	0			0	0	420
T	5%		15	0			0	0	15	5%		50	0			0	0	50
R			0	0			0	0	30			0	0			0	0	30
US Route 9 NB L	15%		45	0			0	0	45	15%		155	0			0	0	155
T	35%		100	0	20%		25	0	430	35%		360	0	20%		85	0	750
R			0	0			0	0	205			0	0			0	0	205
US Route 9 SB L		5%	0	10			0	0	35		5%	0	40			0	0	65
T		35%	0	75		20%	0	5	680		35%	0	270		20%	0	20	890
R	10%		30	0			0	0	30	10%		105	0			0	0	105
US Route 9/Spier Falls/Fortsville (2009)									0									
Spier Falls EB L	5%		15	0			0	0	80	5%		50	0			0	0	115
T			0	0			0	0	0			0	0			0	0	0
R			0	0			0	0	15			0	0			0	0	15
Fortsville WB L			0	0			0	0	25			0	0			0	0	25
T			0	0			0	0	0			0	0			0	0	0
R	5%		15	0			0	0	90	5%		50	0			0	0	125
US Route 9 NB L			0	0			0	0	5			0	0			0	0	5
T	40%		115	0	20%		25	0	785	40%		410	0	20%		85	0	1140
R			0	0			0	0	0			0	0			0	0	0
US Route 9 SB L		5%	0	10			0	0	50		5%	0	40			0	0	80
T		40%	0	85		20%	0	5	1090		40%	0	310		20%	0	20	1330
R		5%	0	10			0	0	70		5%	0	40			0	0	100
US Route 9/I-87 Exit 17 NB Off to Rt 9 NB (2009)									0									
I-87 NB Off to Rt 9 NB WB R	15%		45	0	10%		10	0	375	15%		155	0	10%		45	0	520
US Route 9 NB T	25%		70	0	10%		10	0	400	25%		260	0	10%		45	0	625
US Route 9 SB T		30%	0	65		10%	0	5	910		30%	0	230		10%	0	10	1080
US Route 9/I-87 Exit 17 NB On from Rt 9 SB (2009)									0									
US Route 9 NB T	40%		115	0	20%		25	0	775	40%		410	0	20%		85	0	1130
US Route 9 SB T		30%	0	65		10%	0	5	910		30%	0	230		10%	0	10	1080
R		10%	0	20		10%	0	5	330		10%	0	75		10%	0	10	390

Volumes

2008	1.012563
2009	1.010038
2010	1.007519
2013	1

PM Peak Hour 0.25% per year

Null

Intersection		Raw Existing	2013 Existing	2013 Existing Round	Approved/Pending Distribution in	Approved/Pending Distribution out	Approved/Pending Assignment in	Approved/Pending Assignment out	Future w/out sewer	Speculative (excludes Industrial Park) Distribution in	Speculative (excludes Industrial Park) Distribution out	Speculative (excludes Industrial Park) Assignment in	Speculative (excludes Industrial Park) Assignment out	Industrial Park Distribution in	Industrial Park Distribution out	Industrial Park Assignment in	Industrial Park Assignment out	Future w/ sewer
							326	192				1708	1894			170	640	
US Route 9/Feeder Dam/Williams (2010)																		
Feeder Dam EB	L	102	103	105			0	0	105			0	0			0	0	105
	T	39	39	40			0	0	40			0	0			0	0	40
	R	3	3	5	2%		5	0	10	2%		35	0			0	0	45
Williams WB	L	93	94	95	5%		15	0	110	5%		85	0			0	0	195
	T	63	63	65			0	0	65			0	0			0	0	65
	R	21	21	20			0	0	20			0	0			0	0	20
US Route 9 NB	L	10	10	10		2%	0	5	15		2%	0	40			0	0	55
	T	529	533	535		17%	0	35	570		25%	0	475		10%	0	65	1110
	R	66	66	65		5%	0	10	75		5%	0	95			0	0	170
US Route 9 SB	L	22	22	20			0	0	20			0	0			0	0	20
	T	542	546	545	17%		55	0	600	25%		425	0	10%		15	0	1040
	R	136	137	135			0	0	135			0	0			0	0	135
US Route 9/Nolan/Bluebird (2008)																		
Nolan EB	L	25	25	25			0	0	25			0	0			0	0	25
	T	21	21	20			0	0	20			0	0			0	0	20
	R	26	26	25	2%		5	0	30	2%		35	0			0	0	65
Bluebird WB	L	93	94	95	6%		20	0	115	6%		100	0		20%	0	130	345
	T	19	19	20			0	0	20			0	0			0	0	20
	R	41	42	40			0	0	40			0	0		10%	0	65	105
US Route 9 NB	L	50	51	50		2%	0	5	55		2%	0	40			0	0	95
	T	505	511	510		24%	0	45	555		32%	0	605			0	0	1160
	R	104	105	105		6%	0	10	115		6%	0	115	20%		35	0	265
US Route 9 SB	L	27	27	25			0	0	25			0	0	10%		15	0	40
	T	486	492	490	24%		80	0	570	32%		545	0			0	0	1115
	R	43	44	45			0	0	45			0	0			0	0	45
US Route 9/Route 197 (2013)																		
Site Driveway EB	L	0	0	0			0	0	0			0	0			0	0	0
	T	0	0	0			0	0	0			0	0			0	0	0
	R	0	0	0			0	0	0			0	0			0	0	0
Route 197 WB	L	317	317	315			0	0	315			0	0			0	0	315
	T	0	0	0			0	0	0			0	0			0	0	0
	R	43	43	45	2%		5	0	50	10%		170	0			0	0	220
US Route 9 NB	L	0	0	0			0	0	0			0	0			0	0	0
	T	568	568	570	50%		165	0	735	50%		855	0	20%		35	0	1625
	R	401	401	400			0	0	400			0	0			0	0	400
US Route 9 SB	L	49	49	50		2%	0	5	55		10%	0	190			0	0	245
	T	457	457	455		50%	0	95	550		50%	0	945		20%	0	130	1625
	R	0	0	0			0	0	0			0	0			0	0	0
US Route 9/Spier Falls/Fortsville (2013)																		
Spier Falls EB	L	61	61	60	5%		15	0	75	5%		85	0			0	0	160
	T	7	7	5			0	0	5			0	0			0	0	5
	R	5	5	5			0	0	5			0	0			0	0	5
Fortsville WB	L	48	48	50			0	0	50			0	0			0	0	50
	T	9	9	10			0	0	10			0	0			0	0	10
	R	62	62	60	5%		15	0	75	5%		85	0			0	0	160
US Route 9 NB	L	5	5	5			0	0	5			0	0			0	0	5
	T	881	881	880	40%		130	0	1010	40%		685	0	20%		35	0	1730
	R	10	10	10			0	0	10			0	0			0	0	10
US Route 9 SB	L	47	47	45		5%	0	10	55		5%	0	95			0	0	150
	T	682	682	680		40%	0	75	755		40%	0	760		20%	0	130	1645
	R	98	98	100		5%	0	10	110		5%	0	95			0	0	205
US Route 9/I-87 Exit 17 NB Off to Rt 9 NB (2009)																		
I-87 NB Off to Rt 9 NB WB	R	589	595	595	15%		50	0	645	15%		255	0	10%		15	0	915
US Route 9 NB	T	473	478	480	25%		80	0	560	25%		425	0	10%		15	0	1000
US Route 9 SB	T	597	603	605		30%	0	60	665		30%	0	570		10%	0	65	1300
US Route 9/I-87 Exit 17 NB On from Rt 9 SB (2009)																		
US Route 9 NB	T	1062	1073	1075	40%		130	0	1205	40%		685	0	20%		35	0	1925
US Route 9 SB	T	597	603	605		30%	0	60	665		30%	0	570		10%	0	65	1300
	R	263	266	265		10%	0	20	285		10%	0	190		10%	0	65	540

Spot Improvements

Intersection		Speculative (excludes Industrial Park) Distribution in	Speculative (excludes Industrial Park) Distribution out	Speculative (excludes Industrial Park) Assignment in	Speculative (excludes Industrial Park) Assignment out	Industrial Park Distribution in	Industrial Park Distribution out	Industrial Park Assignment in	Industrial Park Assignment out	Future w/ sewer
				425	475			45	160	
US Route 9/Feeder Dam/Williams (2010)										
Feeder Dam EB	L			0	0			0	0	105
	T			0	0			0	0	40
	R	2%		10	0			0	0	20
Williams WB	L	5%		20	0			0	0	130
	T			0	0			0	0	65
	R			0	0			0	0	20
US Route 9 NB	L		2%	0	10			0	0	25
	T		5%	0	120		10%	0	15	705
	R		5%	0	25			0	0	100
US Route 9 SB	L			0	0			0	0	20
	T	25%		105	0	10%		5	0	710
	R			0	0			0	0	135
US Route 9/Nolan/Bluebird (2008)										
Nolan EB	L			0	0			0	0	25
	T			0	0			0	0	20
	R	2%		10	0			0	0	40
Bluebird WB	L	6%		25	0		20%	0	30	170
	T			0	0			0	0	20
	R			0	0		10%	0	15	55
US Route 9 NB	L		2%	0	10			0	0	65
	T		24%	0	150			0	0	705
	R	6%		0	30	20%		10	0	155
US Route 9 SB	L			0	0	10%		5	0	30
	T	32%		135	0			0	0	705
	R			0	0			0	0	45
US Route 9/Route 197 (2013)										
Site Driveway EB	L		10%	0	50			0	0	50
	T		5%	0	25			0	0	25
	R		15%	0	70			0	0	70
Route 197 WB	L			0	0			0	0	315
	T	5%		20	0			0	0	20
	R			0	0			0	0	50
US Route 9 NB	L	15%		65	0			0	0	65
	T	35%		150	0	20%		10	0	895
	R			0	0			0	0	400
US Route 9 SB	L		5%	0	25			0	0	80
	T		35%	0	165		20%	0	30	745
	R	10%		45	0			0	0	45
US Route 9/Spier Falls/Fortsville (2013)										
Spier Falls EB	L	5%		20	0			0	0	95
	T			0	0			0	0	5
	R			0	0			0	0	5
Fortsville WB	L			0	0			0	0	50
	T			0	0			0	0	10
	R	5%		20	0			0	0	95
US Route 9 NB	L			0	0			0	0	5
	T	40%		170	0	20%		10	0	1190
	R			0	0			0	0	10
US Route 9 SB	L		5%	0	25			0	0	80
	T		40%	0	190		20%	0	30	975
	R		5%	0	25			0	0	135
US Route 9/I-87 Exit 17 NB Off to Rt 9 NB (2009)										
I-87 NB Off to Rt 9 NB WB	R	15%		65	0	10%		5	0	715
US Route 9 NB	T	25%		105	0	10%		5	0	670
US Route 9 SB	T		30%	0	145		10%	0	15	825
US Route 9/I-87 Exit 17 NB On from Rt 9 SB (2009)										
US Route 9 NB	T	40%		170	0	20%		10	0	1385
US Route 9 SB	T		30%	0	145		10%	0	15	825
	R		10%	0	50		10%	0	15	350

Zoning Reduction (10%)

Intersection		Speculative (excludes Industrial Park) Distribution in	Speculative (excludes Industrial Park) Distribution out	Speculative (excludes Industrial Park) Assignment in	Speculative (excludes Industrial Park) Assignment out	Industrial Park Distribution in	Industrial Park Distribution out	Industrial Park Assignment in	Industrial Park Assignment out	Future w/ sewer
				1535	1705			150	575	
US Route 9/Feeder Dam/Williams (2010)										
Feeder Dam EB	L			0	0			0	0	105
	T			0	0			0	0	40
	R	2%		30	0			0	0	40
Williams WB	L	5%		75	0			0	0	185
	T			0	0			0	0	65
	R			0	0			0	0	20
US Route 9 NB	L		2%	0	35			0	0	50
	T		25%	0	425		10%	0	60	1055
	R		5%	0	85			0	0	160
US Route 9 SB	L			0	0			0	0	20
	T	25%		385	0	10%		15	0	1000
	R			0	0			0	0	135
US Route 9/Nolan/Bluebird (2008)										
Nolan EB	L			0	0			0	0	25
	T			0	0			0	0	20
	R	2%		30	0			0	0	60
Bluebird WB	L	6%		90	0		20%	0	115	320
	T			0	0			0	0	20
	R			0	0		10%	0	60	100
US Route 9 NB	L		2%	0	35			0	0	90
	T		32%	0	545			0	0	1100
	R	6%		0	100	20%		30	0	245
US Route 9 SB	L			0	0	10%		15	0	40
	T	32%		490	0			0	0	1060
	R			0	0			0	0	45
US Route 9/Route 197 (2013)										
Site Driveway EB	L		10%	0	170			0	0	170
	T		5%	0	85			0	0	85
	R		15%	0	255			0	0	255
Route 197 WB	L			0	0			0	0	315
	T	5%		75	0			0	0	75
	R			0	0			0	0	50
US Route 9 NB	L	15%		230	0			0	0	230
	T	35%		535	0	20%		30	0	1300
	R			0	0			0	0	400
US Route 9 SB	L		5%	0	85			0	0	140
	T	35%		745	0		20%	0	115	1260
	R	10%		155	0			0	0	155
US Route 9/Spier Falls/Fortsville (2013)										
Spier Falls EB	L	5%		75	0			0	0	150
	T			0	0			0	0	5
	R			0	0			0	0	5
Fortsville WB	L			0	0			0	0	50
	T			0	0			0	0	10
	R	5%		75	0			0	0	150
US Route 9 NB	L			0	0			0	0	5
	T	40%		615	0	20%		30	0	1655
	R			0	0			0	0	10
US Route 9 SB	L		5%	0	85			0	0	140
	T		40%	0	680		20%	0	115	1550
	R		5%	0	85			0	0	195
US Route 9/I-87 Exit 17 NB Off to Rt 9 NB (2009)										
I-87 NB Off to Rt 9 NB WB	R	15%		230	0	10%		15	0	890
US Route 9 NB	T	25%		385	0	10%		15	0	960
US Route 9 SB	T		30%	0	510		10%	0	60	1235
US Route 9/I-87 Exit 17 NB On from Rt 9 SB (2009)										
US Route 9 NB	T	40%		615	0	20%		30	0	1850
US Route 9 SB	T		30%	0	510		10%	0	60	1235
	R		10%	0	170		10%	0	60	515

APPENDIX C

INTERSECTION ACCIDENT SUMMARY BY TYPE

EXIT 17 / US ROUTE 9
TRANSPORTATION AND LAND USE PLAN
TOWN OF MOREAU, SARATOGA COUNTY, NEW YORK

Accident Data on US Route 9 from 2009 through 2011

Intersection	Collision Type							
	Rear End	Right Angle	Left-turn	Head On	Right-turn	Overtaking	Other	Total
Reynolds	8	2	1	1	0	0	4	16
Bluebird	12	4	0	0	1	0	0	17
William	11	2	1	0	0	1	1	16
SpierFalls	4	1	0	0	0	0	2	7

APPENDIX D

MEETING SUMMARIES

EXIT 17 / US ROUTE 9
TRANSPORTATION AND LAND USE PLAN
TOWN OF MOREAU, SARATOGA COUNTY, NEW YORK

2 Winners Circle, Albany, NY 12205
518-446-0396 (p) 518-446-0397 (f)

SUMMARY OF MEETING

This meeting summary represents the writer's understanding of the major issues discussed. If you wish to suggest edits or additions, please contact the undersigned.

DATE: July 25, 2013
PROJECT: Exit 17 / Route 9 Corridor Land Use and Transportation Study
PLACE: Crandall Public Library
TIME: 1:30 p.m.
ATTENDEES:

Name	***Representing***
Preston Jenkins	Town of Moreau
Mike Valentine	Saratoga County
Rob Cherry	NYSDOT Region 1
Aaron Frankenfeld	A/GFTC
Kate Mance	A/GFTC
Greg Francese	A/GFTC
Mark Sargent	Creighton Manning
Alanna Moran	Creighton Manning

PURPOSE: The purpose of this meeting was to initiate the Exit 17/Route 9 Corridor Land Use and Transportation Study.

MINUTES:
The following was noted:

1. Review overall project approach (scope outline)
    a. The scope of services as outlined in the project proposal and interview are acceptable.
    b. The study area map is accurate. Individual parcels may extend outside the area shown.

2. Review Project Goals/Key Deliverables
    a. Provide a product/plan that is practical and implementable
    b. Balance development goals with roadway capacity constraints
    c. Accommodate pedestrians and bicyclists both locally and regionally
    d. Consider access management strategies to minimize conflict points

3. Public Participation
    a. Change the timing of the Public Meeting to solicit greater input on alternatives. The meeting should be moved between M3 and M4. **Action: CM to update schedule.**
    b. Additional advisory committee members should be solicited. **Action: Preston will provide an invitation to members of the Town Board and Planning Board and will speak with the South Glens Falls mayor.**

c. Regional economic development groups should be approached for targeted outreach, specifically with information regarding potential regional growth.

4. Corridor Conditions
   a. Creighton Manning will document existing conditions for advisory committee M2
   b. Several studies to be aware of: Town Comprehensive Plan, A/GFTC Access Management Study, Corridor Improvement Plan for Route 9 (2002), possible traffic study for the "Buck" project. **Action: CM will attempt to locate the "Buck" study.**
   c. Creighton Manning has some in-house data for the corridor and Rob provided additional traffic data for the study area. **Action: CM will review available data and supplement as needed.**
   d. **Action: Kate will provide the accident data for the area in GIS format.**
   e. There is a water project and a potential sewer project to extend utility services in the study corridor. These two projects will influence the development potential along Route 9.

5. Land Use Forecasting Working Meeting
   a. A working meeting to discuss development potential on a parcel-by-parcel basis has been scheduled for **August 6, 2013 at 9:00 at the Moreau Town Hall**. The information will be used to develop the potential growth in the corridor under existing zoning. **The working meeting was held on August 20th.**

6. Schedule
   a. The next advisory committee meeting has been scheduled for **August 26, 2013 at 1:30 at the Crandall Public Library**.

The meeting concluded at 3:00 p.m.

Alanna Moran
cc: Attendees
File

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Rob for PIN 1043.52 shows construction completion on 12/31/201 and contract acceptance on 6/22/2011.

2. Land use
    a. Michael and Cynthia walked much of the corridor and took photos to document existing land uses. Existing land uses range from highway commercial in the south to residential in the north.
    b. A working meeting to identify the growth potential was held on August 20. The results of the meeting are summarized in the attached parcel map and corresponding table. The table and map will be reworked to clarify that trips from all of the identified parcels will be included in the future traffic volumes. The Table shows about 2,000,000 square feet of potential development that could generate approximately 4,000 additional PM peak hour trips.
    c. Discussion about whether to include a "full build" scenario within the report in addition to the "reasonable build" scenario. The general question is whether it is necessary to include something that will never happen or whether it's best to include the numbers as an allowable future so that total growth potential is known. Decision, was to address theoretical build-out potential in the Land Use/Zoning discussion, and to have the traffic build-out based on the more "reasonable build" scenario.
    d. A municipality can make land use decisions that cause peak hour levels of service to degrade. This can be acceptable in some instances when studied and documented appropriately. The municipality can request the NYSDOT to also acknowledge the degradations. The idea is that it may not be cost effective to mitigate peak hour delay, when traffic operations will still be good for the remaining 22 hours of the day, and the decision-makers understand that there will be some peak hour congestion. Level-of-Service is a design criteria on interstates, but it is a design parameter on other roadways. *As noted by Rob, the Department considers a drop in level of service to be a significant impact requiring mitigation. In the circumstance where it has been demonstrated that the drop in level of service cannot be reasonably mitigated, and does not result in a reduction in safety, the affected municipality can request that NYSDOT consider granting an exception to the policy.*

3. Study goals and objectives / evaluation measures
    a. The Study needs to establish some quantifiable evaluation measures to use to compare plan features.
    b. A project goal statement will be written to identify key factors. The goal statement should capture safety, "reasonable" traffic operations, pedestrian (multi-modal) accommodations, cost feasibility, and timeframe. I.e. costly roadway infrastructure improvements may be more feasible in the long term. **Action: CM to write a draft project goal statement and circulate for committee review.**

4. Plan development
    a. In their corridor visit, Behan identified several areas for access management potential, aesthetic improvements, and identified two corridor character areas. Preston generally agreed with the Character areas, noting that the entire area is zoned commercial.
    b. One zoning change option identified was a "maximum lot coverage" rather than maximum building size to minimize the amount of impervious surface on a parcel.
    c. Parcel connections and access roads were discussed. If there is potential for an effective bypass or access road it should be pursued. At a minimum, areas for formal parcel connections should be identified.

d. The safety benefits of sidewalks are recognized, but there are known financial constraints. Recommendations for sidewalks should be identified only in appropriate areas. Sufficiently wide shoulders may be appropriate in some areas.
e. The majority of the corridor is more suited to bicycle trips therefore the plan should include good bicycle facilities.
f. Access management considerations like narrow driveways should be balanced with an appropriate mainline speed.
g. **Action: CM and Behan to develop a preliminary plan that incorporates the above mentioned features.**

5. Schedule
    a. The next advisory committee meeting has been scheduled for **October 7, 2013 at 1:30 at the Crandall Public Library**.

The meeting concluded at 3:45 p.m.

Alanna Moran
cc: Attendees
File

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2 Winners Circle, Albany, NY 12205
518-446-0396 (p) 518-446-0397 (f)

SUMMARY OF MEETING

This meeting summary represents the writer's understanding of the major issues discussed. If you wish to suggest edits or additions, please contact the undersigned.

DATE: October 21, 2013
PROJECT: Exit 17 / Route 9 Corridor Land Use and Transportation Study
PLACE: Town of Moreau Office Building
TIME: 1:30 p.m.
ATTENDEES:

Name	***Representing***
Preston Jenkins	Town of Moreau
Bob Vittengil	Town of Moreau
Mike Valentine	Saratoga County
Rob Cherry	NYSDOT Region 1
Aaron Frankenfeld	A/GFTC
Kate Mance	A/GFTC
Cynthia Behan	Behan Planning
Mark Sargent	Creighton Manning
Alanna Moran	Creighton Manning

PURPOSE: The purpose of this meeting was to review the initial sketch plan recommendations.

MINUTES:
The meeting materials are attached to the meeting summary. The following was noted:

1. Project Purpose – The committee agreed on the following project purpose:

   The purpose of the Exit 17 / Route 9 Corridor Land Use and Transportation Study is to preserve the utility of the existing surface transportation system by formulating feasible land use recommendations and conceptual design alternatives that will help the Town of Moreau plan for anticipated growth and foster economic development along the corridor. Through a process that includes public and agency involvement, the Plan will balance corridor growth and development with traffic operations, overall safety, infrastructure costs, and implementation timeframe. To achieve this purpose, the following strategies have been identified:
   - *Maintain reasonable traffic operations and travel times in the corridor understanding that increased development may result in increased congestion and delay.*
   - *Identify feasible and cost-effective transportation system improvements.*
   - *Pursue multi-modal (bicycle, pedestrian, and transit) improvements, parcel interconnectivity, and secondary access routes.*

2. Traffic Assessment / Findings
   a. PM Peak Hour Travel Time

- Allowing approximately 2 million square feet of additional development (build-out) and implementing signal timing changes in the corridor, results in travel times that are 4x longer than existing conditions.
- Allowing build-out and implementing signal timing changes and spot intersection improvements, results in travel times that are 2 ½x to 3x longer than existing conditions.
- Limiting development to about 500,000 square feet and 250 residential units, plus implementing signal timing changes and spot improvements, results in travel times comparable to existing conditions.
- Allowing buid-out and constructing a 5-lane section between Exit 17 and Route 197, along with implementing signal timing changes and spot improvements north of Route 197, results in travel times comparable to existing conditions.

b. Accident History
- Two safety improvement projects have been implemented in the corridor. The crash data does not include accident reports for the time period after implementation of the two projects.
- Generally speaking, the roadway segment accident rates are comparable to the state average.

3. Sketch Plan
   a. The transportation features on the sketch plan were presented and received general concurrence with the following comments:
      - Confirm the recommendation at William Street with the supervisor. Previous work has identified a preferred option at this location.
      - Need to review crash rates at the Bluebird Road intersection. It is perceived as a high crash location.
      - The Butler Road connection is good but will require the acquisition of property.
      - Eliminating the passing zones within the corridor will require NYSDOT involvement. Rob Cherry will look into the logistics.
      - Recommendations should include sufficient lighting between Exit 17 and Spier Falls Road to address concerns associated with heavy vehicles turning on to Route 9 at night. Some trucks are not easily seen from side view.
      - Explore the potential for incremental development of sidewalks.
      - Make sure there is a balance between construction of right-turn lanes and bike lanes. These two are generally in conflict.
   b. Short-term and long-term concepts were presented for Interchange 17 to slow traffic and facilitate bicycle movement through the area. The committee agreed to present only the long-term concept as the transportation evaluation shows a need for increased capacity and the short-term modification has the potential to reduce capacity.
   c. The zoning recommendations included as part of the Sketch Plan received positive comments. The following was noted:
      - There are current sign standards that aren't enforced.
      - Use trade-offs to leverage private developer involvement in mitigation measures.

4. Other
   a. The Town was notified that they will receive funding for construction of sewer extensions along Route 9 to Exit 17.
   b. Funding for safety projects appears to be the most likely type of public funding currently available.

5. Schedule

a. The next advisory committee meeting has not been scheduled.
b. An advisory committee meeting should be held prior to scheduling and holding the public meeting.

The meeting concluded at 3:45 p.m.

Alanna Moran
cc: Attendees
File

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APPENDIX E

COMMENT DISPOSITION

EXIT 17 / US ROUTE 9
TRANSPORTATION AND LAND USE PLAN
TOWN OF MOREAU, SARATOGA COUNTY, NEW YORK

Exit 17 / Route 9 Report Comments

Project: Exit 17 / US Route 9 Corridor Land Use and Transportation Study	
Date: August 5, 2014	**Reviewer:** Various compiled by A/GFTC

Action Code	A Designer will Comply	B Designer to Evaluate	C Delete Comment	D No Action Required

Comment #	Section, Page #, line #	Comment	Review Action	Response
1	Page 1	Page 1 refers to the implementation of sewer extension project. It was noted to staff that the associated referendum failed. This may need to be reworded.	A	
2	Page 3	"Large parcel sizes" may be an overgeneralization, as smaller commercial developments are present. "Large, vacant" was offered as an improvement.	A	
3	Page 5, Section C	a. Add functional classification to first sentence b. Change "minimum recommended accommodations" to "minimum recommended widths" c. Change "minimum desired" to "minimum recommended"	A A A	
4	Page 6	Lamplighter Boulevard is used as a segment bound in Table 2.2. but is not labeled on the map	A	
5	Page 8, Section D	There is a discrepancy between noting the anecdotal delay observations within a paragraph the leads with a description of acceptable travel times, preceding by more than acceptable LOS; suggesting prefacing the "field observations.." sentence with something like "Despite acceptable travels times and Levels of Service,…"	A	
6	Page 8, Section F	a. Narrative on dedicated ROW facilities geographically omits Betar Byway in SGF- this warrants correction. b. "Accommodated" suggests ADA compliance- not the case	A A	

Action	A	B	C	D
Code	Designer will Comply	Designer to Evaluate	Delete Comment	No Action Required

Comment #	Section, Page #, line #	Comment	Review Action	Response
7	Page 9-10, Tables 2.4 and 2.5	a. Add dates to tables to clarify accident data usage b. Crashes appear to be more frequent and above statewide expected rates since installation of the signal, <u>which was a safety project.</u> Does this have something to do with the compressed time window for the post-installation observations, or do we have a questionable safety project? The data would seem to call this into question. This warrants some explanation.	A A	
8	Page 11, Table 3.1	Change title from "Assumed and Pending" to "Approved <u>or</u> Pending"	A	
9	Page 11	What is meant by "other SEQRA considerations"?	A	
10	Page 12	Explain how "reduced growth scenario" was determined	A	
11	Page 11 and 12, Tables 3.1 and 3.2, corresponding map	Mr. Gutheil has offered several comments related to the contents of these tables, parcel listings and map depictions. Among those: a. Proposed Southwoods development is not included. b. 3.1, #1 is partially owned by Mr. Gutheil; he believes lot count may be closer to 95 c. 3.1, #2- Galusha? Again, Mr. Gutheil believes lot count may be low. d. Question regarding whether Saratoga County's vacant land overlay was used in this inventory. e. Should NIBCO have been included within speculative development? f. What constitutes speculative development? May be worth explaining in the narrative. g. Table 3,2, #14- <u>not residential</u>, multiple owners; Mr. Gutheil does not own all 44 acres. h. Sassone property omitted i. 80 acres by Town Rec Park not listed	 D D D A D A A D D	Text added to paragraph before Table 3.2 for context.
12	Page 13	Reorder narrative to list land use strategies before capital improvement concepts	A	
13	Page 15	Correlate bar chart to Table 3.3 alts, (1a, 2a, etc..)	A	

Action	A	B	C	D
Code	Designer will Comply	Designer to Evaluate	Delete Comment	No Action Required

Comment #	Section, Page #, line #	Comment	Review Action	Response
14	Page 15	Callout box should be deleted. Seems to arrive at conclusion that 500,000 sf of development is an easy thing to accommodate, glosses over 3 lane section. Corresponding narrative also should be strengthened to highlight that improvements would be required under less than full build.	A	
15	Page 17,ppg 4	Limited growth should not be presented as a “potential fundamental conflict” with sewer development.	A	
16	Page 17, ppg 5	Phrase “reduce the number of vehicle trips” is used. We have struggled with this phrasing- a reduction in vehicle trips to the corridor is not the goal	A	
17	Page 21, third bullet	Clarify what condition of HDM is to be satisfied	A	Text revised. Narrower shoulders may be allowed by the HDM, but the Town desires wide shoulders in areas without sidewalks.
18	Page 23. E	Elaborate upon lighting concerns	A	
19	Page 24	Cannot link Butler Road realignment narrative to Figure 4.3; narrative on realignment is a bit dense and unclear.	D	
20	Page 25, ppg1	Refers to Segment 2- not enough direct context to know what this is	A	
21	Page 25, last ppg	Some objection to specified widths of bike facilities and correlating to FC. While I find FC to be an inconsistent technicality, there may be some merit to not prescribing widths but rather stating that bicycle and pedestrian facilities should be included.	A	
22	Page 26	GEIS narrative needs additional information. I would not be comfortable defending this concept given that amount of detail.	A	
23		Mr. Gutheil strongly objects to the GEIS. He believes that the last thing that the Town needs is a limitation on commercial development in the form of impact fees. He believes that capital improvement funding will be available to make capacity modifications to Route 9, and that implementation should be the State's responsibility. If we are going to carry the recommendation of a GEIS, we need to make a stronger case, and illustrate a mechanism for funding that would provide assistance to the town.	B	Funding is being looked into and will be incorporated.