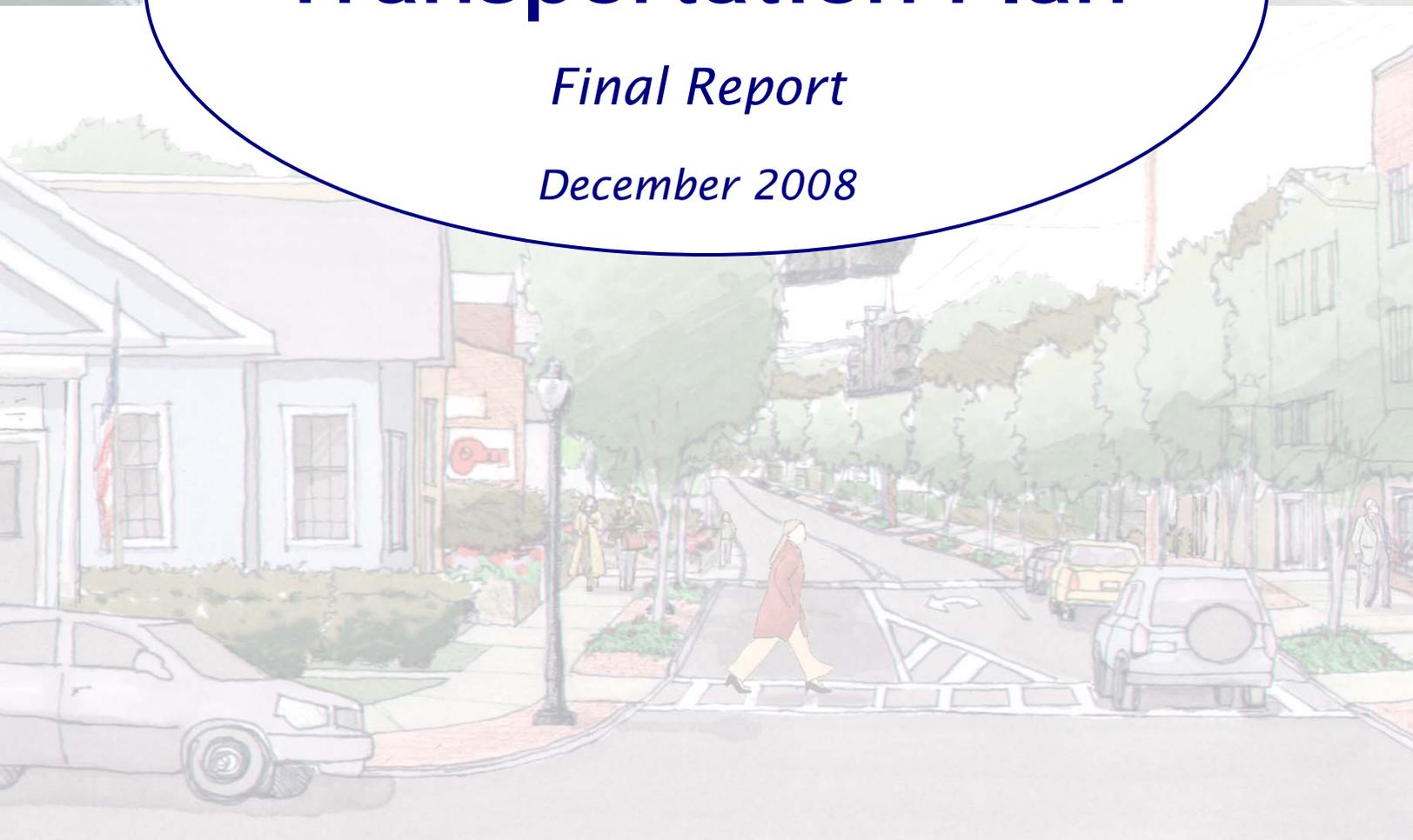




# Marlboro Hamlet Area Transportation Plan

*Final Report*

*December 2008*



Prepared for:



Prepared by:



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Rich Peters – New York State Department of Transportation  
Lisa Mondello – New York State Department of Transportation  
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Residents of the Marlboro Hamlet and Town Board Members, that participated in the public workshops.

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## Executive Summary

The Ulster County Transportation Plan identifies the Hamlet of Marlboro as one of four communities in need of mobility and streetscape improvements. The Town of Marlborough and the Ulster County Transportation Council (UCTC) initiated the Marlboro Hamlet Area Transportation Plan (The Plan) to build upon the needs identified in the *Ulster County Transportation Council's Year 2030 Long Range Transportation Plan*. The objective of the study is the development of a transportation plan that minimizes the impacts to traffic operations, reduces local and regional congestion, enhances regional and local mobility options, addresses quality of life issues, promotes economic vitality, and preserves the historic character of the community. The Plan identifies and evaluates a range of potential land use and transportation improvements with a focus on pedestrian and bicycle accommodations, traffic operations, economic vitality, and preserving the historic character of the community.

The Town of Marlborough and UCTC defined several goals for this planning study. The goals are:

- To achieve a consensus among a diverse group of stakeholders on the development of a Transportation Plan with a horizon date of 2035.
- To develop detailed intersection alternatives for the intersections of Route 9W at Western Avenue and King Street with level of service analysis and conceptual streetscape designs.
- To develop a transportation system improvement plan to address bicycle, pedestrian, landscaping and public transit needs.
- To conduct a parking study to address existing and future parking capacity needs.

Existing land use and transportation issues were documented and analyzed and a multi-modal transportation plan was created. The Plan was developed with the understanding that transportation investments need to be consistent with the land use vision of the Hamlet.

By working within the context of the Plan, six traffic circulation alternatives were developed. The alternatives focused on the intersections of Route 9W/King Street and Route 9W/Western and were analyzed under existing and future traffic conditions. With public and advisory committee input, two preferred alternatives emerged; Alternative 2 – Left-Turn on Western Avenue and Alternative 6 – The Couplet. In order to demonstrate the types of amenities and enhancements that would be included in the final project the concept plan for Alternative 2 was chosen to be refined and rendered.

Implementation of the overall land use and transportation recommendations within this report will take time. Funding for the primary intersection safety project within the Hamlet has already been programmed (UCTC is planning to fund the project after 2012 (P.I.N. 8T0439)). The alternatives analysis within this report should serve as an initial scoping for this with Alternatives 2 and 6 from this plan evaluated further in terms of trade-offs, impacts and constructability. Other recommendations in the plan should be implemented in response to new development and expansions that require approval by the local planning board. Adoption of this plan by the Town Board can establish the report as an official reference document and stepping stone to implement the guidelines, policies and specific actions in the Plan.

## I. Introduction

### Project Purpose

The Ulster County Transportation Plan identifies the hamlet of Marlboro (“the Hamlet”) as one of four communities in need of mobility and streetscape improvements. The Town of Marlborough and the Ulster County Transportation Council (UCTC) initiated the *Marlboro Hamlet Area Transportation Plan (The Plan)* to build upon the needs identified in the *Ulster County Transportation Council’s Year 2030 Long Range Transportation Plan*. The purpose of the Plan is to create a land use and multi-modal transportation plan which focuses on traffic operations, pedestrian and bicycle accommodations, and economic vitality while preserving the historic character of the community. Of specific concern are traffic circulation and pedestrian safety along Route 9W at the intersections of 9W/Western Avenue and 9W/King Street.

The consultant team for the Plan, Creighton Manning Engineering, LLP (CME), Behan Planning Associates, and Cynthia Behan Landscape Architect are responsible for organizing the vision for the Marlboro Hamlet and 9W corridor and completing the *Marlboro Hamlet Area Transportation Plan*.

### Study Area

The Hamlet is located along the Hudson River in the southern portion of Ulster County in New York State. The study area is approximately 1.1 miles and includes two primary corridors; Route 9W from Young Avenue to Conway Road and Western Avenue from Route 9W to Cross Road (the High School). The project study area is shown in Figure I.1.

### Study Goals and Objectives

The Town of Marlborough and UCTC defined several goals for this planning study. They are:

- To achieve a consensus among a diverse group of stakeholders on the development of a Transportation Plan with a horizon date of 2035.
- To develop detailed intersection alternatives for the intersections of Route 9W at Western Avenue and King Street with level of service analysis and conceptual streetscape designs.
- To develop a transportation system improvement plan to address bicycle, pedestrian, landscaping and public transit needs.
- To conduct a parking study to address existing and future parking capacity needs.

The objective of the study is the development of a transportation plan that minimizes the impacts to traffic operations, reduces local and regional congestion, enhances regional and local mobility options, addresses quality of life issues, promotes economic vitality, and preserves the historic character of the community.

### Approach

In order to accomplish the study goals, the study involved several major tasks including:

- Development of an existing conditions inventory and needs assessment document

- Development of land use and transportation recommendations and the identification of a preferred intersection alternative
- A central hamlet parking study
- Development of the Draft and Final Marlboro Hamlet Area Transportation Plan
- Public involvement through a variety of outlets including public workshops

Elected officials, Ulster County staff, NYSDOT staff and community residents have worked together to define the transportation plan for the area that clarifies the vision for the corridor. The Plan greatly benefited from the dedication and involvement of Town Supervisor Al Lanzetta and other representatives of the Town of Marlborough at all of the Study Advisory Committee meetings and public workshops.



## II. Existing Conditions

### General Environment

#### 1. Existing Land Use

A mix of land uses exist within the study area. The plan has relied on the real property classifications assigned to a parcel by the municipality's assessor to categorize land use. Map 1 – Real Property (Appendix A) illustrates the general land use categories of residential, commercial and industrial uses. Along the Route 9W corridor one-third of the properties are classified as commercial. Another one-third is classified as residential, and the remaining properties are a mix of vacant parcels, agricultural land, and public facilities.

There are three schools located within the study area, as well as numerous churches, a library, a post office, and a fire house. A golf course is located at the southern end of the study area in Newburgh. A large industrial property lies east of the corridor just north of the Hamlet area. The dominant land use adjacent but outside the Route 9W corridor is residential with some agricultural properties interspersed.



Photograph 1: Marlboro High School is one of three public schools in the project area.



Photograph 2: Looking down from Lattintown Creek and Ravine.

#### 2. Environmental Features

Map 2 – Environmental Features (Appendix A) illustrates natural features such as wetlands, streams and forest lands which are abundant in the study area. Much of the land between Route 9W and the Hudson River is forested, as is most of the western roadside of Route 9W where steep slopes are prevalent. Other areas of steep slopes (greater than 25%) are located along the Hudson River and Lattintown Creek shorelines. The slopes are particularly dramatic to the east of Route 9W along Lattintown Creek, near the center of the Hamlet. Further to the east, Lattintown Creek levels out before entering the Hudson River where it forms a large wetland. An unnamed tributary to Lattintown Creek flows in from the south creating additional wetland areas. With the associated floodplains, these areas comprise over 50 acres of undevelopable lands.

A majority of the agricultural lands within the study area lie within state certified agricultural districts and enjoy the regulatory protection associated with these districts.

#### 3. Historic and Cultural Features

Map 3 – Historic and Cultural Features (Appendix A), documents the rich cultural history of the Hamlet and the surrounding area. As can be seen in Figure II.4, the Hamlet has been

established for a long time. According to the County's real property data, over 350 homes in the study area were built prior to the 1900s, 22 of them in the 1700s. Two properties are listed on the National Register of Historic Places in the study area – the Dubois-Sarles Octagon House (1850s) at the south end of the Hamlet and the Gomez Mill House (early 1700s) located at the Marlborough-Newburgh border. The Gomez Mill House is open to the public and is reportedly the oldest registered building in Orange County and the oldest Jewish residence in North America<sup>1</sup>. While not on the National Register of Historic Places, the Raccoon Saloon is a historic landmark within the Hamlet, dating back approximately 200 years. Behind the saloon is a spectacular 235-foot waterfall known as Ravine Falls.

Other cultural features within in the study area include several churches and a large cemetery (Doyle Cemetery). A library, fire house, elementary school, middle school, and high school are all conveniently located within or near the Hamlet. South of the Hamlet are important agricultural properties. On the east side of Route 9W, an orchard located at the county line was protected by Scenic Hudson in 2001. The orchard is contiguous to the Gomez Mill historic site. West of Route 9W is the Benmarl winery and vineyard which may possibly be the oldest continually-operated vineyard in America.

Views of the Hudson River and the Hudson Highlands are visible from some locations in the Hamlet as well as along Route 9W. These views are important to the community and should be preserved and integrated into design and development proposals in the town. Likewise, views of the Marlboro Mountains should be maintained.



**Photograph 3: A view of the Hamlet area showing a diversity of historic buildings.**

<sup>1</sup> Gomez Mill House - History ([www.gomez.org/history](http://www.gomez.org/history))



**Figure II.1 - Marlborough, NY.**

**4. Existing Zoning**

Zoning district boundaries are illustrated on Map 4 – Existing Zoning (Appendix A). The study area includes two towns: Newburgh in Orange County, and the Town of Marlborough in Ulster County. Route 9W in Newburgh has two zoning districts, a business district (B) which covers the Mill Creek Golf Course on the east side of Route 9W, and an agricultural residence district with a professional office overlay (AR/O) that covers the remainder of Route 9W in the study area. In Marlborough the majority of corridor is zoned Highway Development (HD) a commercial district that provides for retail establishments, shopping centers, light industrial activities, professional offices and businesses, wholesale storage, and agricultural uses but does not allow residences.

Within the Hamlet, the Route 9W corridor is a mix of commercial (C-1 & HD) and residential zoning (R and R-1). The C-1 commercial district permits retail uses and business services. Also permitted are automobile services, repair and filling stations.

The residential district in the Hamlet allows one and two-family detached dwellings, houses of worship, parks and playgrounds and educational and institutional uses. Multiple dwellings, senior housing and professional offices are also allowed in the residential district but require a special permit.

Industrial zoning is located east of the Hamlet along the Hudson River and encompasses the lands adjacent to the railroad, including the quarry (Tilcon Minerals), as well as the sewage treatment plant. The Marlboro Yacht Club is also currently within the industrial district.

In the study area the rural agricultural district (RAG-1) is primarily west of County Route 11 (Lattintown Road) as well as along the southern edge of the Hamlet lining on both sides of Bingham Road. The primary intent of the agricultural district is to maintain and support the continuation agricultural uses in areas of the Town that are most suitable for those uses. The rural agricultural district permits one and two-family detached residential dwellings. It also allows for residential cluster development as well as a wide array of rural commercial uses, mining and excavation, resort hotels, and outdoor recreation, all with a special use permit.

Table II.1 summarizes the zoning districts within the study area.

**Table II.1 - Study Area Zoning Districts**

District	Major Use(s)	Min. Lot Size	Max. Lot Coverage	Max. Height	Notes
HD	Commercial/Retail	2 acres	40%	35'	Most forms of commercial operations permitted w/w.o. special permit plus agriculture – no residential
C (C-1)	Commercial/Retail	5,000 to 15,000 ft <sup>2</sup>	75%	35'	Lower impact commercial than HD, residential allowed
R	Residential	10,000 to 20,000 ft <sup>2</sup>	30%	35'	Special use allows professional office and neighborhood stores
R-1	Residential	1 acre+	20%	35'	Special use allows professional office and agriculture, recreation and resort hotel with 10+ acres
RAG-1	Agriculture and Residential	1 acre+	20%	35'	Many special uses including mining, recreation, helipads, and resorts
IND	Industrial	5 acres	30%	35'	Special permits allow junkyards, waterfront parks, and experimental laboratories – no residential
B	Residential & Commercial	15,000 ft <sup>2</sup> to 10 acres	20 – 60%	35 – 50'	Many different allows uses, commercial uses all require review
AR/O	Res, Ag, Services and Offices	40,000 ft <sup>2</sup> to 20 acres	5 – 20%	15 – 35'	Non-residential and non-agricultural require review

## 5. Infrastructure

Municipal water and sewer service is available throughout the Hamlet. Water service continues out of the Hamlet along South Street, to County Route 11 (Lattintown Road) and south to the Newburgh line. Water and sewer service is not available along Route 9W south of the Hamlet. The sewer treatment plant is located on Dock Road, between the Hamlet and the Hudson River. An active rail line runs along the western edge of the Hudson River, and high voltage transmission lines traverse the southern end of the study area.

## Transportation

### 1. Existing Roadways Serving the Hamlet

US Route 9W provides north/south travel through the Hamlet and is classified as a Principal Arterial. Route 9W is approximately 24 feet wide including 8 foot shoulders with one travel lane in each direction. Within the Hamlet the shoulders are used for on-street parking. According to the 2006 Highway Sufficiency Ratings published by the NYSDOT, the pavement is rated in good to fair condition in the study area. The posted speed limit on Route 9W in the Hamlet is 30 mph. Approaching the Hamlet from the north the speed limit changes from 40 mph to 30 mph at the Lattintown Creek. Approaching the Hamlet from the south the speed limit changes from 55 mph to 40 mph near Old Post Road and further reduces to 30 mph at St. Mary's Church.

Western Avenue (County Route 14) provides east/west travel from the Hamlet center. Western Avenue is approximately 24 feet wide with one travel lane in each direction. Between King Street and Route 9W, Western Avenue is one way westbound. Angled parking is permitted although not marked, on the north side of Western Avenue from 9W to approximately 100 feet west of King Street. The posted speed limit on Western Avenue in the Hamlet is 30 mph.

### 2. Study Intersections

The traffic control and geometry of the primary study area intersections are as follows:

- Route 9W/Western Avenue – This is a T-intersection located at the center of the Hamlet. There is no traffic control at this intersection. Route 9W provides a single lane for shared movements. Western Avenue is one-way providing a single lane for westbound traffic. On-street parallel parking is permitted on Route 9W within the intersection.
- Route 9W/King Street – This intersection is located approximately 275 feet south of the Route 9W/Western Avenue intersection. King Street intersects Route 9W at an acute angle and operates under stop sign control. King Street is a one-way road providing a single lane for eastbound traffic. Route 9W provides a single lane for shared movements. A gas station driveway is located at the intersection directly opposite King Street.
- Route 9W/Young Avenue – This is a stop controlled T-intersection located north of the Hamlet. A raised island exists on Young Avenue that separates left and right turning traffic. Young Avenue provides direct access to the Marlboro Elementary School.
- King Street/Western Avenue – This is a y-shaped intersection located approximately 200 feet west of Route 9W. King Street provides one lane of traffic for eastbound travel, while Western Avenue provides one lane of travel for westbound traffic. There is a small raised divisional island in the middle of the intersection which contains utility poles and signs.



Photograph 4: Study area intersections



Photograph 5: King Street/Route 9W



Photograph 6: Western Avenue/Route 9W

### 3. Existing Traffic Characteristics

Typical daily traffic variations were determined based on September 2007 Automatic Traffic Recorder (ATR) information provided by the New York State Department of Transportation (NYSDOT). This data is summarized in Figure II.2, and is described below.

The data indicates the following:

- The morning peak hour generally occurs from 7:00 to 8:00 a.m.
- The afternoon peak hour generally occurs from 5:00 to 6:00 p.m.
- The school time peak hour generally occurs from 2:30 to 3:30 p.m.
- The Saturday peak hour generally occurs from 4:00 to 5:00 p.m.
- The Sunday peak hour generally occurs from 1:00 to 2:00 p.m.
- Weekday peak hour volumes are higher than weekend volumes and are considered critical design volumes.

**Figure II.2 – Average Daily Traffic Volume**

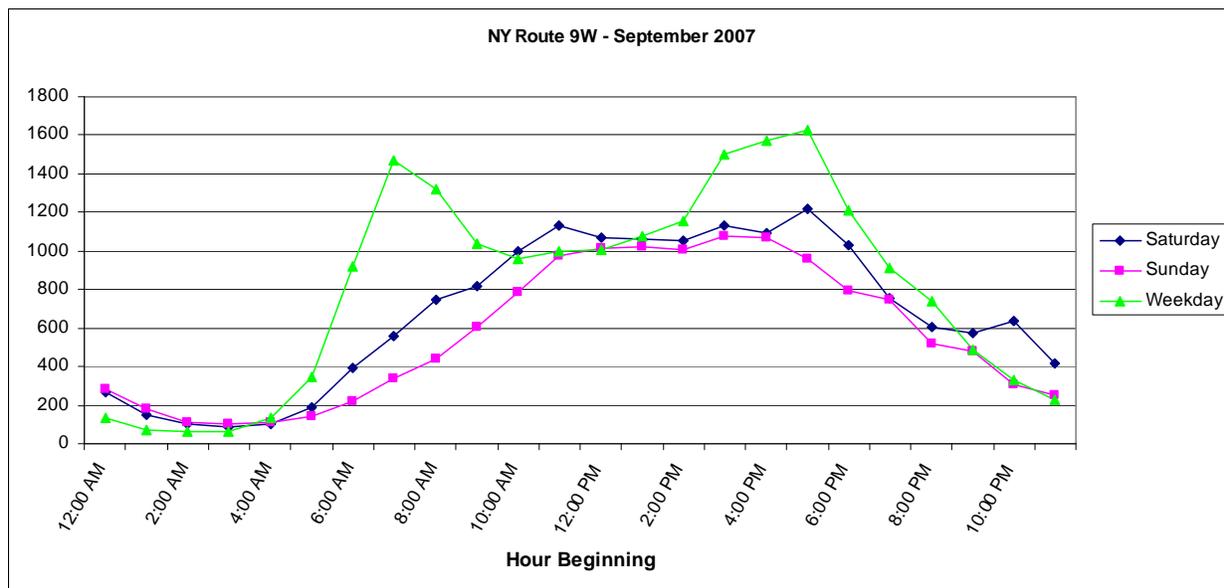


Table II.2 summarizes the daily and peak hour traffic characteristics along the 9W Corridor and along Western Avenue. The evaluation indicates the following:

- The Annual Average Daily Traffic (AADT) along Route 9W is approximately 18,000 vehicles per day.
- The AADT along Western Avenue is approximately 5,000 vehicles per day.
- Peak hour traffic on both road segments is approximately 10 percent of the AADT.
- The directional flow of traffic on Route 9W indicates that during the peak period 51 percent of all traffic is traveling southbound and 49 percent of all traffic is traveling northbound.

- The directional flow of traffic on Western Avenue indicates that during the peak period 60 percent of all traffic is traveling westbound and 40 percent is traveling eastbound.

**Table II.2 – Segment Traffic Volume Summary**

Segment	AADT	DHV	K	DDHV	D	Percent Trucks
Route 9W- County Line to Milton TRPK	18,000*	1,630	0.091	826	51% (SB)	8%
Western Avenue	4,700**	467	n/a	279	60% (WB)	--

\* AADT data from 2007 ATR Count

\*\* AADT estimate from peak hour count.

K= Peak hour volume as a percent of daily volume

DDHV= Directional design hour volume

D= Percent of traffic in predominant direction during PM Peak

In addition to ATR data, 2007 turning movement count information at the study intersections was provided by NYSDOT. Figure II.3 documents the weekday AM and PM peak hour traffic volumes.

#### 4. Traffic Operations

This study will identify capacity and operational improvements focusing on circulation improvements within the Hamlet, specifically at Route 9W/King Street/Western Avenue to improve existing conditions in the Hamlet.

Study intersection operations were evaluated using the latest procedures contained in the Highway Capacity Manual. Operations are expressed in terms of “Level of Service” (LOS), which is a measure of delay ranging from LOS A, indicating little, or no delay to LOS F indicating long delays. Generally, intersections with LOS below D should be considered for improvements. The following table documents the evaluation.

**Table II.3 - Levels of Service**

Intersection	Control	Levels of Service		Peak Delay	
		AM	PM	AM	PM
Route 9W/Western Avenue Route 9W NB   L	U	B	B	10 s	10 s
Route 9W/King Street Gas Station WB   LR King Street EB   LTR	U	C F	C F	21 s >2 min	21 s > 2 min

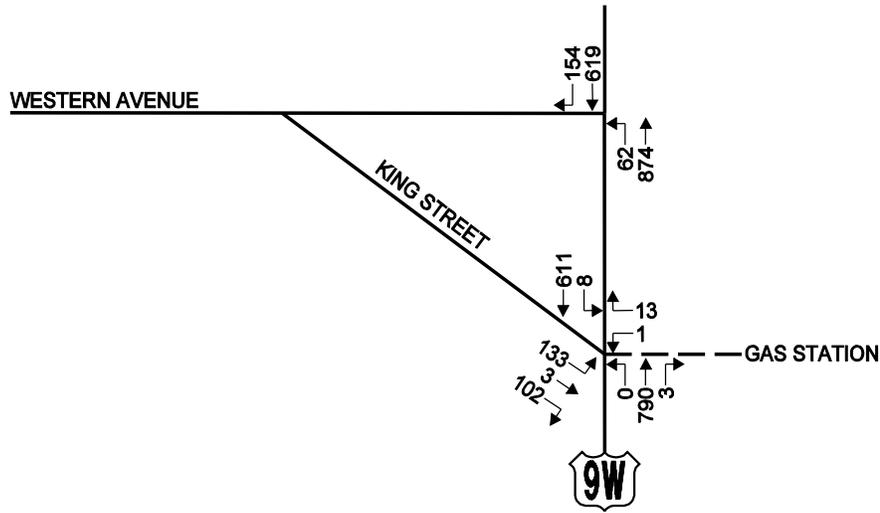
S, U = Signalized or Unsignalized intersection

EB, WB, NB, SB = Eastbound, Westbound, Northbound, Southbound

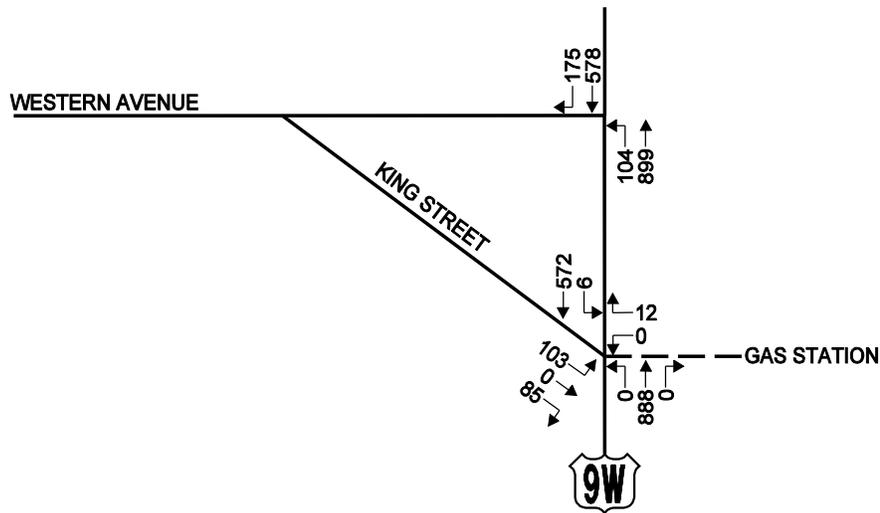
The following observations are evident from this evaluation:

- Route 9W/Western Avenue - The analysis indicates that the intersection operates at level of service B during both peak hours. The average delay for drivers during the peak hours is approximately 10 seconds. Though average delays are low, one northbound left turning vehicle can cause long delays to northbound through traffic. The intersection operates with no traffic control which forces northbound drivers to either wait for a gap in traffic or rely on courtesy gaps in order to make a left onto Western Avenue.

AM PEAK HOUR



PM PEAK HOUR



2007 EXISTING  
TRAFFIC VOLUMES

MARLBORO HAMLET AREA TRANSPORTATION PLAN  
TOWN OF MARLBROUGH, NEW YORK



- Route 9W/King Street - The analysis indicates that the eastbound movement (King Street) operates at LOS of F, with average delays of over 2 minutes during both peak hours. Access from the gas station which operates as a westbound approach leg to this intersection operates at level of service C. The average delay for drivers exiting the gas station during the peak hours is approximately 21 seconds.
- Route 9W/Young Avenue – Currently this intersection operates under stop sign control. During the school arrival and dismissal times traffic is manually controlled to allow school buses to enter Route 9W. This reportedly creates long delays on Route 9W both northbound and southbound. A traffic signal and center left turn lane on Route 9W is currently under consideration by the school district working with the Town and NYSDOT.

## 5. Bike and Pedestrian Activity

Pedestrians and cyclists in the Hamlet face multiple issues including; lack of sidewalks and crosswalks and little buffer from traffic. Wide roadways such as Western Avenue and King Street which measure approximately 50 and 75 feet respectively at their intersection with Route 9W make pedestrian crossings difficult with no pedestrian accommodations. Western Avenue west of the post office and out to Marlboro Central High School lacks pedestrian accommodations. Though there is a continuous pedestrian path along Route 9W to the Elementary School, the path is in poor condition and does not meet the American with Disability Act (ADA) guidelines. The sidewalks on Western Avenue terminate at the Post Office, and the sidewalk on Route 9W south of the Hamlet terminates at St. Mary's Church.

Portions of the Hamlet do have adequate pedestrian/cyclist accommodations. Sidewalks that meet current ADA guidelines are present along the west side of Route 9W in the vicinity of St. Mary's Church. This includes sidewalks in good condition, with high visibility detectable warning strips. In addition, crosswalks are provided on Route 9W at St. Mary's Church, at Carmichael's Deli (opposite the public parking lot) and on Route 9W south of Young Avenue.



**Photograph 7: No crosswalk and high traffic Volume on Route 9W makes it difficult to cross.**



**Photograph 8: An example of good pedestrian accommodation within the Hamlet.**

## 6. Existing Transit

There are two existing transit providers that operate in the Hamlet; Ulster County Area Transit (UCAT) and Trailways. Locally, UCAT provides two routes that serve the Hamlet. The Kingston-Highland-Plattekill-Marlboro Route has two weekday buses daily, one in the morning and one in the afternoon which stop along Route 9W. There is also the Rural Route Service to Kingston. The Rural Route is mainly a senior citizen shopping route that runs the 2<sup>nd</sup>, 3<sup>rd</sup>, and 4<sup>th</sup>

Wednesday of every month. An additional service will also begin this fall when UCAT will run connecting buses to the Ulster/Dutchess Shuttle using the park and ride in Lloyd. This will give Hamlet residents an alternative connection to the Metro-North Railroad and Dutchess County. Proposed stops include Main Street and Prospect Street in New Paltz, the Highland Park & Ride and Main and Market Street in Poughkeepsie. Regionally, Trailways has a flag stop along Route 9W in the center of the Hamlet. There are two buses during the weekday; one in the morning and one in the afternoon to/from Kingston for connecting travel.

## 7. Area Parking

A parking accumulation and duration study was conducted on April 10, 2008. The study included on-street and off-street parking areas in close proximity to the Hamlet Center. The limits of the study area and time of study were confirmed in consultation with the Study Advisory Committee which includes Town officials, business owners and representatives from Ulster County, and the NYSDOT. The study area was surveyed every half hour between 10:00 AM and 2:30 PM. Weather during the data collection was 70 degrees and sunny.

Below are observations from the study:

- There are a total of 215 parking spaces in the study area (83 on-street and 132 in parking lots).
- The overall peak parking demand for the study area occurred between 12:00 and 12:30 pm, when 94 parking spaces (44% of the total supply) were occupied.
- The west side of King Street experienced the highest on-street parking demand averaging 71% occupied, and peaking at 83% occupancy.
- The Key Bank lot experienced the highest off-street parking demand averaging 74% occupied, with a peak of 93% occupancy.
- The angled parking along Western Avenue was approximately 60% occupied during its worst-case observation, meaning there is typically some reserve parking available.
- Similarly, the east side of Route 9W near the Raccoon Saloon saw a maximum parking demand of 50%.
- Parking demand is concentrated around the Western Avenue/King Street intersection with more available spaces being found on the fringes of the study area.
- The average length of stay for a vehicle in the study area was approximately 1.4 hours.
- 13% of all vehicles observed were parked during the entire length of the study.
- Parking turnover varied based on location but was most prominent near eateries and other businesses.
- Parking regulation signs did not clearly identify the beginning and end of parking zones.

Appendix B is the Parking Study Memorandum which includes a map of the study area, a summary table of observations and a parking occupancy map.

## 8. Crash History

Crash data was obtained to determine crash trends along the study area roadways. Crash summaries and details were provided by the NYSDOT Safety and Information Management System for the latest three years of available data from the period between July 1, 2004 and June 30, 2007 for the road segment of 9W between Conway Road and Young and Western Avenues between Route 9W and the High School. Table II.4 summarizes the crash history in the area.

**Table II.4 - Crash History – July 2004 to June 2007**

Road Segment	No. of Crashes *	Crash Rate (Crashes/MEV)	Statewide Avg. Crash Rate
Route 9W – Conway Road to Young Avenue	76	1.83	1.79
Western Avenue - Route 9W to High School	7	0.98	1.79
Intersection- 9W/Western	4	0.22	0.10

\* Includes only "reportable" crashes

The following observations are evident from the crash history evaluation:

- The crash rate on Route 9W from Conway Road to Young Avenue is slightly higher than the Statewide Average of 1.79 accidents per million vehicle miles traveled. Contributing factors include driver inattention, failure to yield, following too closely and slippery pavement.
- The crash rate on Western Avenue from Route 9W to the High School is less than the Statewide Average of 1.79 accidents per million vehicle miles traveled. Contributing factors include; driver inattention, failure to yield, unsafe speed, slippery pavement, improper turning, and failure to keep right.
- The crash rate at Route 9W and Western is greater than the Statewide Average of 0.10 accidents per million vehicles entering the intersection. Three crashes were rear end collisions and one was a left-turn crash. Apparent factors include driver inattention and following too closely.
- There were no accidents involving pedestrian or bicyclists.
- There were no accidents that resulted in a fatality.

## 9. Pending Projects

There are a number of projects that are currently programmed on the Ulster County Transportation Improvement Program (TIP) to take place within the Hamlet area. Below is a summary of the projects.

- US 9W at Young Avenue (2008) - Intersection Signal & Southbound left turn lane
- US 9W at Western Avenue (2012) - Intersection Safety & Efficiency

- Marlboro Hamlet Sidewalk Improvements (2012) – 9W Corridor - Western Avenue to Young Avenue
- Western Avenue/Plattekill Road Repaving (2014) - Adding 4 foot shoulder

The results of this study may be used to help define these projects.

## Public Workshop 1

The first public workshop for the Marlboro Hamlet Transportation Plan was held on January 17, 2008 at the Marlboro Middle School. The purpose of the meeting was to outline project goals, existing conditions, and potential opportunities for the corridor and Hamlet. The workshop began with a technical PowerPoint presentation and a question and answer period after which community members were divided into groups. Participants worked together to identify areas of stability and areas of change and identified desired connections (such as roads, sidewalks, or trail connections). Participants were then asked to prioritize the desired improvements into a wish list. All of the wish lists were collected, and using sticky dots, participants ranked their top five priorities as follows:

1. Sidewalks and Crosswalks
2. Intersections: Traffic flow and Safety
3. Parking in the Hamlet
4. Traffic calming/speed reduction
5. Aesthetics

The results from the first public workshop were used to develop the six intersection improvement alternatives and the transportation and land use recommendations discussed in the following section.

Appendix C contains a detailed summary of Public Workshop #1.



**Photograph 9: Public Meeting #1 Question and answer session.**



**Photograph 10: Public Meeting #1 Group Ranking activity.**

### III. Land Use and Transportation Plan

#### Guiding Principles and Overall Vision

The Marlboro Hamlet Area Transportation Plan identifies and evaluates a range of potential land use and transportation improvements. The Plan focuses on:

- Pedestrian and bicycle accommodations
- Traffic operations
- Economic vitality
- Preserving the historic character of the community

The plan was developed with the understanding that transportation investments need to be consistent with the land use vision of the Hamlet. The recommendations of the Plan include all modes of transportation in order to improve the safety and efficiency for pedestrians and bicyclists, motor vehicles and transit users. The Plan also includes land use recommendations to support economic vitality and preserve the character of the Hamlet area. Figure III.1 illustrates the recommendations and guiding principles of the Plan, which are discussed below.

#### Land Use

##### 1. Transitional Zones

The Plan recommends the creation of two transitional zones. A transitional zone acts as a buffer between incompatible land uses. From the north, the Plan recommends establishing a transitional zone to create a gradual sense of arrival into the Hamlet as one moves from conventional highway development to hamlet style development. The transitional zone will orient development to Route 9W in order to create a “public face” when entering the Hamlet. The plan also recommends extending the three-lane road design (two travel lanes and a shared turn lane) from Riverview Drive (where CVS is located) to Young Avenue.

From the south, the Plan recommends development of a transitional zone that buffers the rural character of corridor in this location from the outgrowth of commercial development from the Hamlet. The zone would utilize the environmental constraints and rural settings as its base for development that follows design guidelines, limits signage, paving, and outdoor storage.

##### 2. Potential Hamlet Expansion Areas

The Plan identifies three potential Hamlet expansion areas to preserve the current feel of the Hamlet as new development occurs. Development within the Hamlet expansion areas should be higher density while maintaining Hamlet style and scale with buildings facing the street, interconnecting streets, minimizing or eliminating access points on Route 9W, connecting new neighborhoods to the Hamlet center and schools along sidewalks or trails, and include the possibility of a local connector route along the east side of Route 9W. Integrated growth in these areas will promote the economic vitality of the Hamlet rather than creating isolated neighborhoods necessitating travel by car.

# Land Use and Transportation Recommendations Map for the Marlboro Hamlet and Surrounding Area

To Milton Hamlet (3 miles)  
To I-87 (15 miles)  
To Poughkeepsie (9 miles)

This map identifies transportation investments that will help to facilitate our land use vision for the Marlboro Hamlet and the surrounding area

## Pedestrian Accommodations:

- Complete sidewalks along Route 9W between Young Avenue and South Street
- Install crosswalks at the library, Western Avenue, Young Avenue, and the Raccoon Saloon
- Widen shoulder and provide safety measures along Western Avenue between the hamlet center and the High School

## Aesthetic Enhancement:

- Beautification of bridge over Lattintown Creek
- Create scenic overlook to enjoy views of the falls

## Hamlet Center:

### Traffic Intersections and Flow Safety

- Improve intersections, traffic flow and safety along Route 9W: Six alternatives proposed

### Parking

- Minimize loss of parking
- Increase parking behind existing buildings
- Maintain on-street parking
- Explore shared parking
- Integrate parking into future development

### Streetscape Enhancements

- Install street trees, plantings, lighting, benches and other amenities

### Historic Preservation

- Help landowners preserve existing historic buildings and structures

### Public Park

- Create a "public square" or park space

## Complete Streets:

- Provide sufficient shoulder width for walking and bicycling on Route 9W and Western Avenue outside the Hamlet
- Provide on-street parking within the Hamlet where feasible
- Provide shared use travel lanes for vehicles and bicycles within the hamlet where roadway widths are restricted
- Develop several transit stops including a centralized stop within the hamlet with a shelter and other amenities
- Provide safe areas for pedestrian crossings near transit stops
- Enhance pedestrian connections between transit stops and surrounding land uses
- Continue to coordinate with UCAT for improved transit service to nearby areas such as Poughkeepsie and Newburgh
- Coordinate with Orange County and Ulster County to designate Lattintown Road as an emergency by-pass route
- Implement streetscape improvements such as street trees, lighting and landscaping

## Route 9W Access Management: (entire corridor)

- Consolidate and channelize curb cuts along existing commercial properties
- Define entrances and exits
- Allow only one access point onto Route 9W per parcel
- Create shared driveways and access roads where feasible
- Create interconnected road and sidewalk networks

## Hamlet Gateways:

- Use design features to create a defined hamlet center and highlight the entrances to the Marlboro hamlet
- Use design features to slow traffic upon entering the hamlet

## Hamlet Transition:

- Make transition from conventional to hamlet style development
- Orient development to Route 9W and create a "public face" to the development
- Extend three-lane road design (two travel lanes with turning lane) to Young Avenue

## Hamlet Mixed-Use:

- Support and maintain a mixed-use center (such as residential, businesses, offices and public amenities)
- Maintain and strengthen hamlet-scale commercial uses (bakery, laundry, bank, small grocery)
- Avoid auto-dependent uses that generate high volumes of traffic or parking

## Two Creeks Greenway:

- Preserve significant natural areas
- Connection to Hudson River Greenway / water & rail
- Preserve and feature views of the ravine falls
- Create public access to the Hudson River, Lattintown Creek and Mill Creek

## Potential Hamlet Expansion Areas:

- Maintain hamlet vernacular style and scale with buildings facing the public realm and interconnected streets
- Minimize or eliminate access points onto Route 9W
- Connect new neighborhoods to hamlet center and schools along sidewalks or trails

## Hamlet Transition:

- Maintain rural character of surrounding land uses
- Take the environmental constraints and rural setting into consideration when developing
- Limit signage, paving and outdoor storage to the extent feasible

## Southern Gateway:

- Maintain natural and agricultural landscape transition between Newburgh and Marlboro hamlet
- Preserve viewsheds

## Planned Transportation Improvements

- US 9W at Young Avenue (2008) - Intersection Signal & Southbound left turn lane
- US 9W at Western Avenue (2012) - Intersection Safety & Efficiency
- Western Avenue to Young Avenue (2008-2012) - Sidewalk Improvements
- Western Avenue/Plattekill Road (2012) - Repaving & Adding 4 foot shoulder

Figure 3.1

To Newburgh (5 miles)  
To Stewart Int. Airport (8 miles)

For conceptual planning purposes only

### 3. Greenway Projects

The Plan recommends preserving Greenway corridors and creating public access to the Hudson River, Lattintown Creek and Mill Creek. A scenic overlook is recommended on the Route 9W Bridge over Lattintown Creek to feature views of the ravine falls.

### 4. Overall Land Use

The Plan recommends supporting and maintaining the Hamlet as a mixed-use center in which residential, retail, offices, and public amenities share the same space. Hamlet-scale commercial uses including bakeries, laundry facilities, banks and small grocery stores and mixed use buildings that include residential and professional offices above retail should be encouraged. Auto-dependent uses that generate high volumes of traffic or parking need should be avoided.

## **Transportation**

### 1. Access Management

The Plan recommends access management for the entire Route 9W study area. Access management would improve driver guidance and safety and would include: consolidating and channelizing curb cuts along existing commercial properties, clearly defining entrances and exits, access points onto Route 9W (such as one access point per parcel) creating shared driveways and access roads where feasible, and creating interconnected road and sidewalk networks. The Sunoco station located on the east side of 9W at King Street, should be one of the first areas where access management improvements are initiated. Other opportunities, outside of the Hamlet include channelizing curb cuts at the Dickies/DJ Heating property to the north, the Getty/William Smith & Son Insurance near Dock Road, and Tally Ho Realty property to the south. Figure III.2 shows these properties. Improved access should be considered at these locations the next time a roadway improvement project is programmed or land use changes are initiated for the property requiring local approval.

The possibility of several new public road extensions and linkages was explored and the plan includes an additional linkage to create a new road opposite Young Avenue. This road ties into the Marlboro Middle School creating a four way intersection, and eliminates the existing Middle School driveway.

### 2. Pedestrian and Bicycle Accommodations and Aesthetic Enhancements

The Plan includes several recommendations to improve pedestrian and bicycle accommodations and safety within the Hamlet area. In addition to implementing streetscape improvements such as street trees, lighting, benches and landscaping, the Plan recommends:

- Installing sidewalks along Route 9W between Young Avenue and Old Post Road
- Providing sufficient shoulder width for bicycles on Route 9W and Western Avenue directly outside of the Hamlet
- Providing shared use travel lanes for vehicles and bicycles within the Hamlet where roadway widths are restricted
- Installing crosswalks across Route 9W at the library, Western Avenue, Young Avenue, and King Street.

All pedestrian improvements should be ADA compliant including curb ramps with detectable warning. Pedestrian push buttons and count-down timers should be installed at pedestrian crossings at signalized intersections.

### 3. Transit

A significant portion of the labor force in the community works out of county primarily to the south. In addition, the close proximity of regional shopping venues in the Newburg area makes it the destination of choice for community residents. There is a need to extend existing transit service within the Hamlet to increase transit options for these individuals. One limitation to the existing service is the lack of direct service to nearby regional centers in Orange, and Dutchess Counties. There is also a need to provide amenities at transit stops to accommodate travelers during inclement weather. Of the two existing transit providers that operate in the Hamlet; Ulster County Area Transit (UCAT) and Trailways, only Trailways provides service into neighboring Orange County. The Plan recommends extending existing transit service from the Hamlet for more direct service to the south, including access to the ferry and to existing transit in Newburgh. The UCAT service soon to be initiated to Poughkeepsie is welcome and should be monitored for use. Within the corridor, the Plan recommends developing several transit stops including a centralized stop within the Hamlet with a shelter and other amenities.

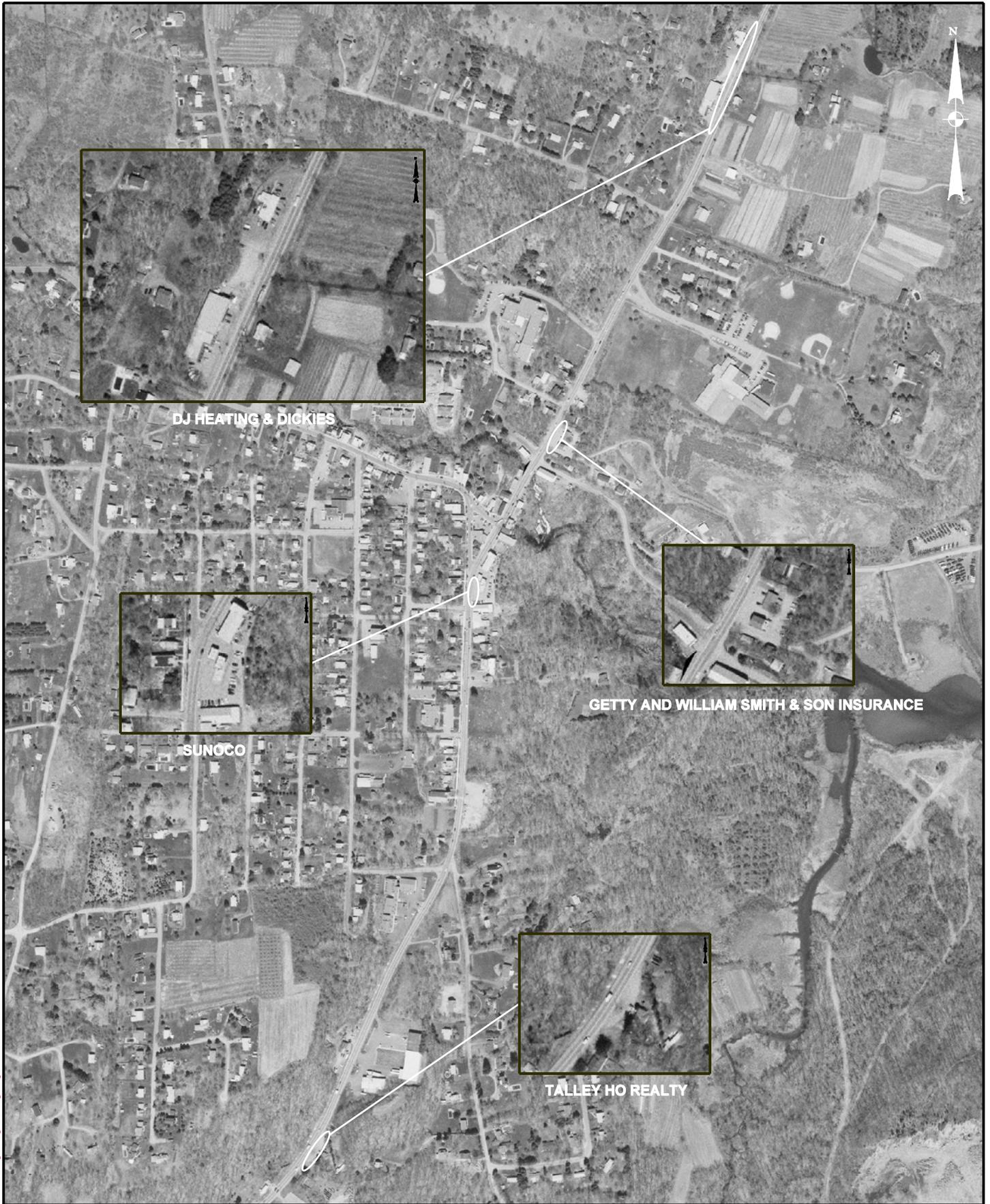
### 4. Gateways

Gateway recommendations include using design features to define the entrances to the Hamlet encouraging slower vehicular speed, specifically when entering the Hamlet from the north at or near Young Avenue and from the south at or near Old Post Road. Gateway improvements could include a raised median, an architectural feature, signs, road narrowing, landscaping or a major intersection with a traffic signal to clearly define the Hamlet entrance.

### 5. Parking

Parking availability in the Hamlet is a primary concern of citizens and business owners. The parking study shows that overall parking supply is adequate within the Hamlet although it is apparent that individuals and business owners are passionate about particular spaces and their opinion of the adequacy of parking overall. Minimizing the loss of existing parking was a key component of the evaluation of the alternatives to improve the transportation system. Where transportation improvements require a reduction in on-street parking the plan recommends that they be off-set with replacement parking. Plan alternatives also include pedestrian improvements to provide better access from all parking spaces within the Hamlet. The plan did not explore charging (meters) for on-street spaces. Based on observations made during the parking study, where curb-bump outs and pedestrian crossing improvements are proposed this small reduction in the overall parking supply can be tolerated. Potential parcels have been identified to replace lost parking spaces to meet the off-sets associated with other transportation improvements examined, specifically:

- A parcel on the south side of Western Avenue near the intersection of King Street
- Two parcels properties on King Street
- A parcel on north side of Western Avenue near the intersection of King Street
- A parcel located on the northern side of Dock Road
- A parcel located on 9W just north of Western Avenue



**POTENTIAL LOCATIONS FOR  
ACCESS MANAGEMENT IMPROVEMENTS**

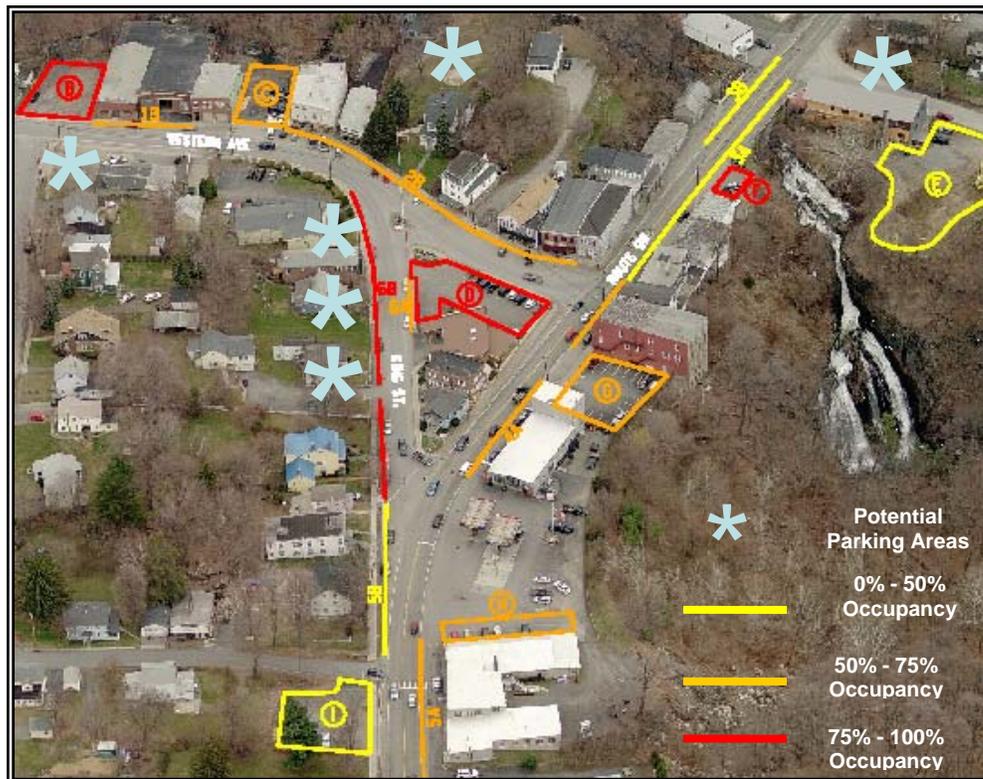
**MARLBORO HAMLET AREA  
TRANSPORTATION PLAN  
TOWN OF MARLBROUGH, NEW YORK**



PROJECT: 07-110d

DATE: 9/08

FIGURE: 111.2

**Figure III.3 – Potential Parking Areas**

The Plan also recommends increasing parking behind existing buildings, creating additional on-street parking where feasible and pursuing shared parking with private lot owners and those business owners with relatively empty lots (such as Marlboro Market and Carmichael's Deli). Sharing private lots could help reduce on-street parking congestion that occurs in the core Hamlet area and balance the overall parking supply.

### Intersection Improvement Alternatives

In order to improve traffic flow and intersection safety, six traffic circulation alternatives were identified from public comments and a field walk with Committee members. Concept drawings were developed and presented to the Study Advisory Committee and the public for review. Figures III.4 to III.9 illustrate the six alternatives. The alternatives focused on the intersections of Route 9W/King Street and Route 9W/Western and were analyzed under existing and future traffic conditions. Table III.1 notes the criteria used in the evaluation and documents major conclusions of the analysis.

One criterion used to evaluate the alternatives is the ability to accommodate long-range traffic volumes. Historical trends and existing travel demand model forecasts were analyzed to develop 2020 and 2035 traffic volumes. Appendix D contains the traffic forecasts. Using these future volumes, Intersection Level of Service (LOS) analysis was completed for each of the alternatives. Levels of service range from A to F with level of service A conditions considered excellent with very little delay while level of service F generally represents conditions with very long delays. Improvements are typically designed to provide LOS D or better in the design year (2035). However, this report supports the possibility of overall LOS E being acceptable as a context

sensitive solution for the Hamlet. Table III.2 shows the results of the LOS analysis and summarizes expected levels of service in the years 2020 and 2035. Intersections that are typically unacceptable but may be acceptable as a solution for the Hamlet are noted in italics (LOS E). Intersections that fail to meet the project goals and are therefore unacceptable are noted in bold (LOS F).

Below is a detailed description of the six alternatives and a summary of the analysis.

### Alternative 1 – Pedestrian and Access Management Improvements (With and Without a Signal)

Alternative 1 focuses specifically on pedestrian accommodations and access management and was analyzed with (Alternative 1b) and without (Alternative 1a) traffic signals at the study area intersections. This alternative is low cost and consists of installing high visibility crosswalks and 'bumpouts' on Route 9W, Western Avenue, and King Street. Alternative 1 impacts fewer than five parking spaces and does not affect private property. Analysis indicates that this alternative alone, signalized or unsignalized does not meet the project objective of accommodating future traffic volumes. Under Alternative 1 excessive delays and level of service F would prevail during the peak hour in the future. However, to improve pedestrian and vehicular safety it is highly recommended that the noted pedestrian and access management improvements be initiated regardless of additional roadway improvements.

### Alternative 2 – Left-Turn at Western Avenue

Alternative 2 consists of constructing a northbound left turn lane on Route 9W at Western Avenue. Two coordinated traffic signals with a pedestrian signal phase would be installed. Similar to Alternative 1, pedestrian accommodations would be created, especially, the installation of high visibility crosswalks on Route 9W, Western Avenue, and King Street. Alternative 2 impacts approximately 20 parking spaces and 1 privately owned parcel. Alternative 2 nominally meets the project objective of accommodating future traffic volumes, long delays (LOS E) will exist during the peak hour, but should be considered acceptable as a context sensitive solution for the Hamlet.

### Alternative 3 – Left-Turn at King Street

Alternative 3 would significantly change the directional flow of traffic at the study area intersections. This Alternative would consist of closing Western Avenue to vehicular traffic, constructing a northbound left turn lane on Route 9W at King Street and providing two-way traffic flow on King Street. A traffic signal would be installed at King Street, and the roadway would be widened to allow adequate truck turning. In addition, pedestrian accommodations including high visibility crosswalks on 9W and King Street would be installed. Alternative 3 impacts approximately 20 parking spaces and 1 privately owned parcel. Alternative 3 nominally meets the project objective. Although long delays (overall LOS E) will exist during the peak hour.

After the second Public Meeting and in consultation with the Advisory Committee, an additional alternative was identified (Alternative 3a). This alternative is similar to Alternative 3 (two-way traffic on King Street), with a northbound left turn lane on Route 9W at King Street. The difference is that southbound right turns from Route 9W onto King Street would be prohibited, and Western Avenue would be kept open only for southbound right turns from Route 9W. The Committee agreed that a separate concept plan would not be developed for this sub-alternative, and it is not shown in Table III.1. Levels of service analyses were conducted however, and the results are shown in Table III.2. Alternative 3a would provide better levels-of-service than Alternative 3 because of the eliminated right turns (Overall LOS D with some lane groups

operating below LOS D). It would also avoid the building impacts of Alternative 3, and much of the on-street parking along the east side of Route 9W could be preserved. A new signal would be installed at the Route 9W/King Street. An additional traffic signal would need to be justified at the Route 9W/Western Avenue intersection for pedestrian crossings. Both Alternatives 3 and 3a should be seen as acceptable as a context sensitive solution for the Hamlet.

#### Alternative 4 – Two-Way Traffic on Western Avenue

Under Alternative 4, King Street would be closed to vehicular traffic. A traffic signal would be installed at Western Avenue and the roadway would be widened to accommodate two-way traffic flow. High visibility crosswalks would be installed on 9W and Western Avenue. Alternative 4 impacts approximately 20 parking spaces and 2 privately owned parcels. Alternative 4 nominally meets the project objective. Although long delays (LOS E) will exist during the peak hour, this alternative should be seen as acceptable as a context sensitive solution for the Hamlet.

#### Alternative 5 – Roundabout at 9W/King Street or 9W/Western Avenue

Under Alternative 5 a single-lane roundabout at 9W/Western Avenue or 9W/King Street would be constructed and high visibility crosswalks at all pedestrian crossing areas would be installed. Alternative 5 impacts between 15 to 20 parking spaces and 2 to 3 privately owned parcels. Alternative 5 does not meet the project objective. Excessive delays and level of service F would prevail during the peak hour in the future.

#### Alternative 6 – Couplet

Alternative 6 would provide two-way traffic flow on King Street and Western Avenue. A northbound left turn lane would be constructed on Route 9W at King Street. Two traffic signals with a pedestrian signal phase would be installed as well as high visibility crosswalks on Route 9W, Western Avenue, and King Street. All traffic to and from the north would be directed to Western Avenue and all traffic to and from the south would be directed to King Street. Directional signing and driver guidance to/from King Street and Western Avenue would be very important. Alternative 6 is the only alternative that provides an exclusive protected pedestrian phase for crossing Route 9W. Alternative 6 impacts approximately 20 parking spaces, and has no apparent building impacts. Alternative 6 (The Couplet) provides the best overall level of service (LOS B).



ACCESS MANAGEMENT  
IMPROVEMENTS AT  
GAS STATION

INSTALL HIGH VISIBILITY  
CROSSWALKS AT  
WESTERN AVENUE,  
KING STREET AND  
ON ROUTE 9W

ALTERNATIVE 1  
PEDESTRIAN AND ACCESS  
MANAGEMENT IMPROVEMENTS  
MARLBORO HAMLET AREA  
TRANSPORTATION PLAN  
TOWN OF MARLBROUGH, NEW YORK



PROJECT: 07-110d

DATE: 8/08

FIGURE: III.4

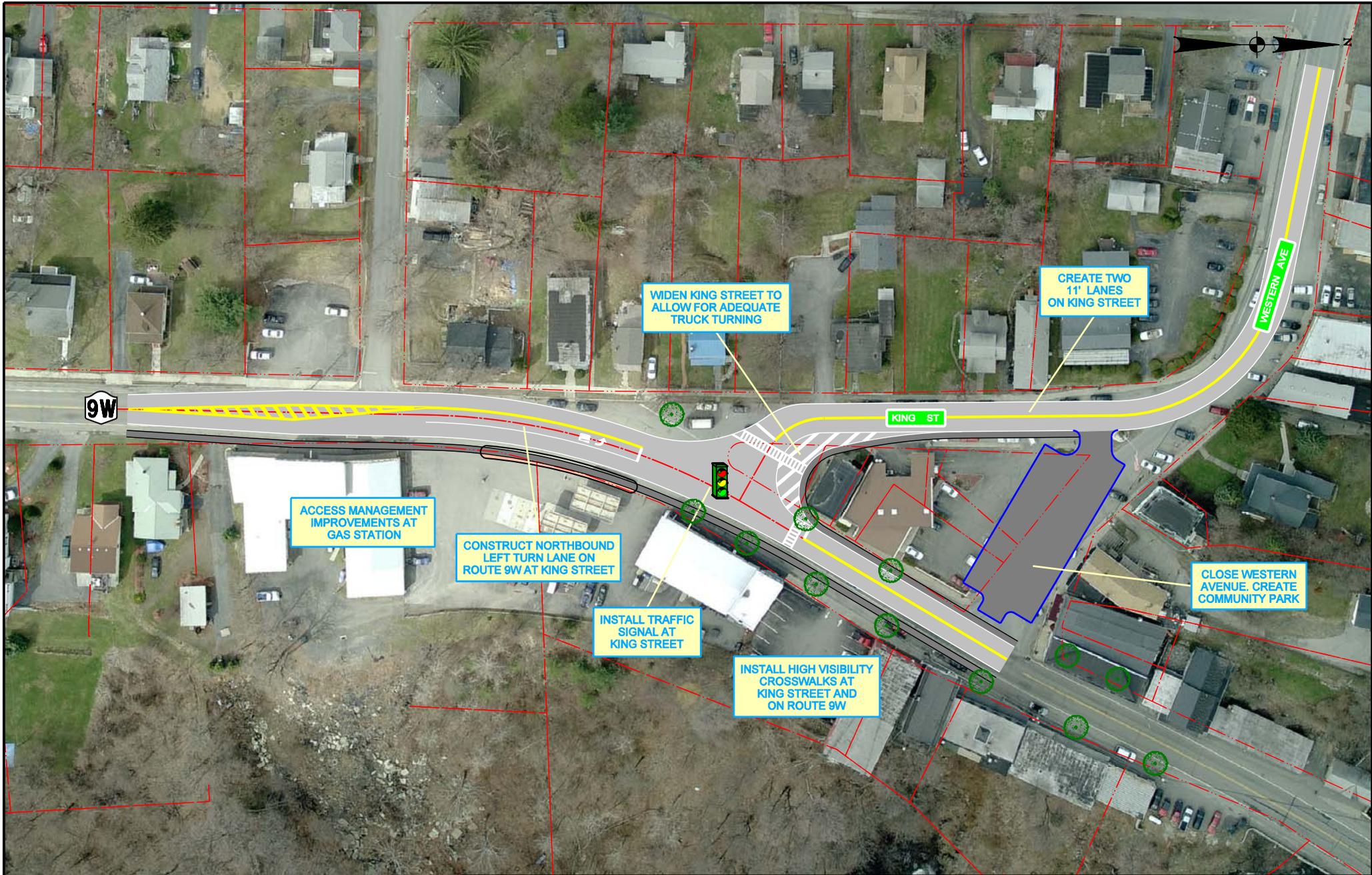


**ALTERNATIVE 2  
SIGNAL & LEFT TURN LANE**

**MARLBORO HAMLET AREA  
TRANSPORTATION PLAN  
TOWN OF MARLBROUGH, NEW YORK**

**CME**  
CREIGHTON MANNING ENGINEERING, LLP

PROJECT: 07-110d	DATE: 8/08	FIGURE: III.5
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**ALTERNATIVE 3  
TWO-WAY KING STREET**

**MARLBORO HAMLET AREA  
TRANSPORTATION PLAN  
TOWN OF MARLBROUGH, NEW YORK**



**CMEO**  
CREIGHTON MANNING ENGINEERING, LLP



ACCESS MANAGEMENT  
IMPROVEMENTS AT  
GAS STATION

CONSTRUCT NORTHBOUND  
LEFT TURN LANE ON  
ROUTE 9W AT WESTERN AVENUE

INSTALL TRAFFIC  
SIGNAL AT  
WESTERN AVENUE

INSTALL HIGH VISIBILITY  
CROSSWALKS AT  
WESTERN AVENUE AND  
KING ST., AND ON ROUTE 9W

TWO-WAY TRAFFIC ON  
WESTERN AVENUE

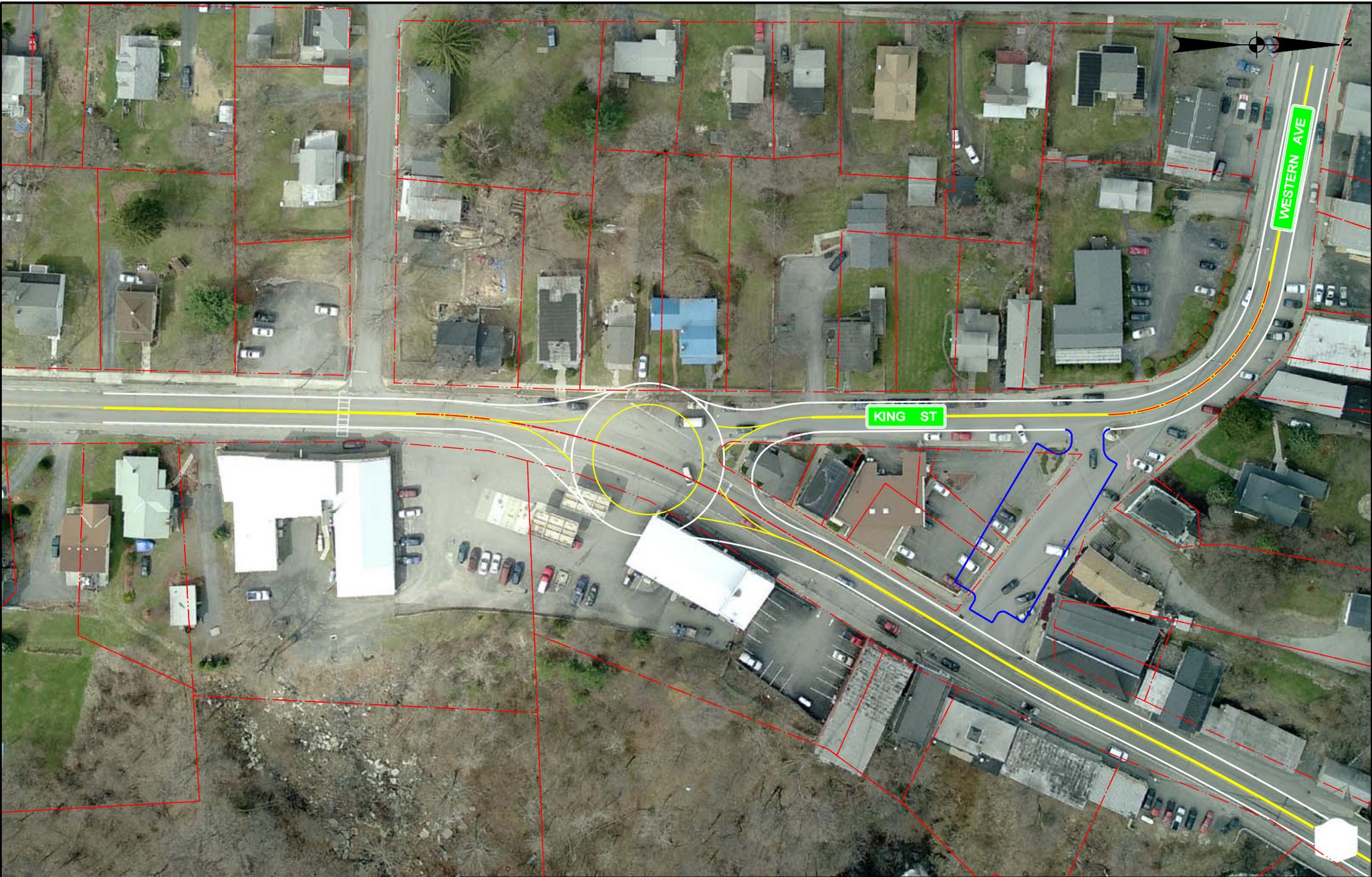
**ALTERNATIVE 4**  
**TWO-WAY TRAFFIC ON WESTERN**

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**MARLBORO HAMLET AREA**  
**TRANSPORTATION PLAN**  
**TOWN OF MARLBROUGH, NEW YORK**

**CME**  
 CREIGHTON MANNING ENGINEERING, LLP





ALTERNATIVE 5  
ROUNDAABOUT AT KING ST. & RT. 9W

MARLBORO HAMLET AREA  
TRANSPORTATION PLAN  
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ALTERNATIVE 6  
COUPLET

MARLBORO HAMLET AREA  
TRANSPORTATION PLAN  
TOWN OF MARLBROUGH, NEW YORK



**TABLE III.1 - INTERSECTION IMPROVEMENT ALTERNATIVE ANALYSIS**

	<b>1A</b>	<b>1B</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5A</b>	<b>5B</b>	<b>6</b>
<b>COMPARISON ITEMS</b>	<b>Existing Geometry w/ Pedestrian Improvements</b>	<b>Existing Geometry w/ two Signals</b>	<b>Left Turn Lane at Western w/ two Signals</b>	<b>King Street Two-Way with Traffic Signal</b>	<b>Western Avenue Two-Way with Signal</b>	<b>Roundabout at King/9W</b>	<b>Roundabout at Western Ave/9W</b>	<b>French Couplet with Two traffic Signals</b>
<b>Intersection Configuration:</b> King Street: Western Avenue:	Unsignalized Unsignalized	Signalized Signalized	Signalized Signalized	Signalized Unsignalized	Unsignalized Signalized	Roundabout NA	NA Roundabout	Signalized Signalized
<b>Traffic Flow:</b> King Street: Western Avenue:	One-way One-way	One-way One-way	One-way One-way	Two-way Close	Close Two-way	Two-way Close	Close Two-way	Two-way Two-way
<b>Constructability</b>	Routine	Routine	Minor staging to maintain traffic	Moderate staging to maintain traffic	Moderate staging to maintain traffic	Complex staging to maintain traffic	Complex staging to maintain traffic	Moderate staging to maintain traffic
<b>Construction Cost</b>	\$	\$	\$\$	\$\$	\$\$\$	\$\$\$	\$\$\$	\$\$
<b>Right-Of-Way Acquisition</b>	No	Possible Easement for Signal	Yes	Yes	Yes	Yes	Yes	Yes
<b>Buildings</b>	0	0	1	1	2	2	3	0
<b>Parking Spaces Lost</b>	<5	<5	20±	20±	20±	15±	20±	20±
<b>Worst Case LOS (2035)</b>	F	F	E	E	E	F	F	B
<b>Total Network Delay (2035)</b>	5.9 min/veh	4.2 min/veh	0.5 min/veh	0.5 min/veh	0.5 min/veh	0.9 min/veh	0.9 min/veh	0.2 min/veh
<b>Pedestrian/Bike Accommodations</b>	Shorter Crossing Distances	Pedestrian signal phases	Pedestrian Signal Phases	Pedestrian Signal Phases	Pedestrian Signal Phases	Shorter Crossing Distances	Shorter Crossing Distances	Protected Pedestrian Signal Phase
<b>Meets Project Objectives</b>	No	No	Yes	Yes	Yes	No	No	Yes

**Table III.2 - Alternative Level of Service Summary**

Intersection Approach		Control	Existing 2007		Build 2020		Build 2035	
			AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
Alternative 1A	Route 9W/King St/ Gas Station Drwy	TW	A (0.3)	A (0.3)	A (0.4)	A (0.4)	A (0.8)	A (0.7)
	Route 9W SB L		<b>F (563.9)</b>	<b>F (510.1)</b>	<b>F (*)</b>	<b>F (*)</b>	<b>F (*)</b>	<b>F (*)</b>
	King St EB LTR Gas Station WB LR		C (20.1)	C (19.4)	D (27.1)	C (24.7)	<b>F (51.3)</b>	E (37.4)
	Route 9W/Western Ave	TW	A (2.6)	A (4.5)	A (4.5)	A (8.4)	B (12.0)	D (30.4)
	Route 9W NB L							
	Route 9W/Young St	TW	A (3.0)	A (0.3)	--	--	--	--
	Route 9W SB L		<b>F (970.9)</b>	<b>F (71.1)</b>	--	--	--	--
	Young St WB L R		C (20.7)	B (14.8)	--	--	--	--
	Route 9W NB T	S	--	--	B (19.0)	A (6.4)	D (48.8)	B (10.7)
	R		--	--	A (1.0)	A (0.6)	A (1.0)	A (0.6)
Route 9W SB L	--		--	B (14.4)	A (4.1)	D (53.7)	A (.7)	
T	--		--	B (13.8)	A (4.6)	D (42.6)	A (9.2)	
Young Ave WB L	--		--	D (38.9)	D (44.5)	D (51.9)	D (46.8)	
R	--		--	C (22.5)	D (35.5)	C (27.0)	D (38.0)	
Overall		--	--	B (17.3)	A (6.6)	D (42.8)	B (11.0)	
Alternative 1B	Route 9W/King St/ Gas Station Drwy	S	B (11.8)	B (14.8)	B (14.7)	C (25.7)	C (31.0)	<b>F (84.6)</b>
	Route 9W NB TR		A (3.0)	A (2.8)	A (3.3)	A (3.8)	D (36.7)	C (33.8)
	Route 9W SB LT		D (45.1)	D (50.5)	E (76.5)	D (46.5)	<b>F (145.9)</b>	E (70.2)
	King St EB LTR Gas Station WB LR		C (30.3)	C (31.1)	C (31.3)	C (31.4)	C (31.3)	C (31.4)
	Overall		B (13.3)	B (16.2)	B (19.3)	C (21.1)	D (49.6)	E (66.0)
	Route 9W/Western Ave	S	A (5.1)	A (9.3)	D (35.4)	<b>F (97.8)</b>	<b>F (583.2)</b>	<b>F (485.6)</b>
	Route 9W NB LT		A (9.7)	A (8.2)	B (13.1)	A (8.7)	D (40.3)	B (13.2)
	Route 9W SB TR		A (7.3)	A (8.8)	C (24.8)	E (61.5)	<b>F (323.9)</b>	<b>F (293.2)</b>
	Route 9W/Young St	S	B (17.8)	A (5.1)	B (14.2)	A (5.2)	C (26.7)	A (6.6)
	Route 9W NB T		A (3.4)	A (0.7)	A (1.0)	A (0.6)	A (0.0)	A (0.4)
	R		A (8.0)	A (2.4)	B (14.3)	A (4.3)	D (43.9)	B (10.0)
	Route 9W SB L		A (8.7)	A (3.7)	B (13.9)	A (5.9)	D (41.0)	B (11.4)
	T		D (45.8)	D (47.9)	D (48.6)	D (45.6)	D (53.8)	D (45.7)
Young Ave WB L	C (27.2)		D (37.2)	C (26.6)	D (35.8)	C (27.0)	C (34.2)	
R								
Overall		B (15.5)	A (5.7)	B (16.6)	A (6.7)	C (33.8)	B (10.2)	

Key: TW = Two-way stop controlled, S = Signalized Control, R = Roundabout Control  
 X (Y.Y) = Level of Service (Delay, seconds per vehicle).  
 NB, SB, WB, EB, SEB = Northbound, Southbound, Westbound, Eastbound, South-Eastbound intersection approaches.  
 LTR = Left-turn, through, and/or right-turn movements.  
 --- = Not Applicable

**Table III.2 – Level of Service Summary (Cont'd)**

Intersection Approach		Control	Existing 2007		Build 2020		Build 2035	
			AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
Alternative 2	Route 9W/King St/ Gas Station Drwy	S						
	Route 9W NB TR		B (11.0)	B (14.3)	B (17.0)	C (23.4)	C (34.5)	<b>F (84.6)</b>
	Route 9W SB LT		A (2.9)	A (2.6)	A (3.5)	A (3.2)	<i>E (71.7)</i>	C (33.8)
	King St EB LTR Gas Station WB LTR		D (48.9) C (31.1)	D (52.5) C (31.4)	<i>E (57.2)</i> C (29.8)	D (50.6) C (32.2)	<b>F (125.1)</b> C (30.5)	<i>E (70.2)</i> C (31.4)
	Overall		B (13.5)	B (16.2)	B (17.6)	C (20.2)	<i>E (61.8)</i>	<i>E (66.0)</i>
	Route 9W/Western Ave	S						
	Route 9W NB L		A (0.1)	A (0.1)	A (0.3)	A (0.2)	B (16.0)	A (0.9)
	Route 9W SB TR		A (0.2) A (8.9)	A (0.2) A (7.8)	A (0.4) B (16.0)	A (0.4) A (81)	D (0.5) D (46.6)	A (0.2) B (13.2)
	Overall		A (4.3)	A (3.3)	A (8.8)	A (3.5)	C (23.0)	A (5.5)
	Route 9W/Young St	S						
Route 9W NB T	B (19.1)		A (8.3)	C (24.2)	B (11.2)	D (51.8)	B (14.9)	
Route 9W SB L	A (3.1) A (8.5)		A (1.0) A (2.4)	A (3.0) B (14.2)	A (1.0) A (4.3)	A (2.2) D (43.9)	A (1.0) B (10.0)	
Young Ave WB L	A (9.2) D (43.5)		A (3.7) D (47.9)	B (13.9) D (48.6)	A (5.9) D (45.6)	D (41.0) D (53.8)	B (11.4) D (45.7)	
	C (26.6) D (37.2)			C (26.8) D (35.8)		C (27.0) C (34.2)		
Overall			B (16.1)	A (7.1)	C (20.4)	A (9.4)	D (43.1)	B (13.9)
Alternative 3	Route 9W/King St	S						
	Route 9W NB L		B (10.7)	A (8.2)	C (21.6)	B (15.5)	D (36.3)	D (43.3)
	Route 9W SB TR		A (8.3) B (19.1)	A (8.2) B (13.5)	B (12.0) C (28.3)	B (12.9) B (18.0)	C (20.1) <b>F (80.2)</b>	D (36.6) D (47.1)
	King St EB LR		D (48.3) B (18.4)	D (45.4) B (14.1)	D (53.0) C (24.9)	D (48.1) B (18.6)	<b>F (96.5)</b> <i>E (57.1)</i>	D (54.0) D (42.8)
	Route 9W/Young St	S						
	Route 9W NB T		B (12.9)	A (6.4)	B (16.1)	A (7.7)	D (37.4)	B (10.8)
	Route 9W SB L		A (2.5) A (8.0)	A (1.2) A (2.4)	A (2.1) B (14.3)	A (1.0) A (4.3)	A (1.6) D (43.9)	A (1.3) B (10.0)
	Young Ave WB L		A (8.7) D (45.8)	A (3.7) D (47.9)	B (13.9) D (48.6)	A (5.9) D (45.6)	D (41.0) D (53.8)	B (11.4) D (45.7)
			C (27.2) D (37.2)		C (26.6) D (35.8)		C (27.0) C (34.2)	
	Overall			B (13.7)	A (6.2)	B (17.4)	A (7.8)	D (37.8)

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 NB, SB, WB, EB, SEB = Northbound, Southbound, Westbound, Eastbound, South-Eastbound intersection approaches.  
 LTR = Left-turn, through, and/or right-turn movements.  
 --- = Not Applicable

**Table III.2 – Level of Service Summary (Cont'd)**

Intersection Approach		Control	Existing 2007		Build 2020		Build 2035		
			AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	
Alternative 3a	Route 9W/King St		S	A (5.9)	A (6.6)	A (7.2)	A (6.1)	A (9.2)	B (10.0)
	Route 9W NB	L		B (10.9)	B (12.7)	B (15.6)	B (14.2)	C (29.8)	D (46.8)
		T		A (7.7)	A (6.6)	A (11.0)	A (5.4)	E (62.9)	E (56.9)
	Route 9W SB	T		D (43.6)	D (45.0)	D (49.1)	D (54.1)	<b>F (80.1)</b>	E (56.6)
	King St EB	LTR		C (29.9)	C (30.0)	C (28.7)	C (32.8)	C (28.3)	C (30.2)
		LTR							
	Overall			B (14.3)	B (15.1)	B (18.4)	B (15.7)	D (49.0)	D (48.5)
	Route 9W/Western Ave		S						
	Route 9W NB	T	A (0.2)	A (0.3)	A (0.4)	A (0.5)	A (0.7)	A (0.7)	
	Route 9W SB	TR	A (0.2)	A (0.1)	A (0.4)	A (0.2)	A (0.5)	A (0.4)	
	Overall			A (0.2)	A (0.2)	A (0.4)	A (0.4)	A (0.6)	A (0.6)
	Route 9W/Young St		S	B (17.5)	A (9.8)	C (23.5)	B (11.9)	D (52.4)	B (15.2)
	Route 9W NB	T		A (1.2)	A (1.2)	A (2.9)	A (1.0)	A (2.4)	A (1.0)
		R		A (8.5)	A (2.4)	B (14.2)	A (4.3)	D (43.9)	B (10.0)
Route 9W SB	L	A (9.2)		A (3.7)	B (13.9)	A (5.9)	D (41.0)	B (11.4)	
	T	D (43.5)		D (47.9)	D (48.6)	D (45.6)	D (53.8)	D (45.7)	
Young Ave WB	L	C (26.6)	D (37.2)	C (26.8)	D (35.8)	C (27.0)	C (34.2)		
	R								
Overall			B (15.3)	A (7.7)	C (20.1)	A (9.7)	D (43.3)	B (14.0)	
Western Ave/King St		TW							
King St NB	L		A (9.8)	B (10.2)	B (10.1)	B (10.7)	B (10.5)	B (11.5)	
Alternative 4	Route 9W/Western Ave		S	B (10.7)	A (8.2)	C (21.6)	B (15.5)	D (36.3)	D (43.3)
	Route 9W NB	L		A (8.3)	A (8.2)	B (12.0)	B (12.9)	C (20.1)	D (36.6)
		T		C (21.8)	B (15.6)	C (30.2)	C (21.1)	<b>F (84.0)</b>	D (50.4)
	Route 9W SB	TR		D (48.3)	D (45.4)	D (53.0)	D (48.1)	<b>F (96.5)</b>	D (54.0)
	King St EB	LR							
	Overall			B (19.6)	B (14.9)	C (25.7)	B (19.8)	E (58.8)	D (44.0)
	Route 9W/Young St		S	B (14.6)	A (8.5)	B (18.5)	B (10.5)	D (41.9)	B (14.2)
	Route 9W NB	T		A (6.3)	A (1.2)	A (4.2)	A (1.0)	A (2.7)	A (1.3)
		R		A (8.0)	A (2.4)	B (14.3)	A (4.3)	D (43.9)	B (10.0)
	Route 9W SB	L		A (8.7)	A (3.7)	B (13.9)	A (5.9)	D (41.0)	B (11.4)
	T	D (45.8)		D (47.9)	D (48.6)	D (45.6)	D (53.8)	D (45.7)	
Young Ave WB	L	C (27.2)	D (37.2)	C (26.6)	D (35.8)	C (27.0)	C (34.2)		
	R								
Overall			B (14.5)	A (7.2)	B (18.4)	A (9.1)	D (39.5)	B (13.6)	

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 NB, SB, WB, EB, SEB = Northbound, Southbound, Westbound, Eastbound, South-Eastbound intersection approaches.  
 LTR = Left-turn, through, and/or right-turn movements.  
 --- = Not Applicable

**Table III.2 – Level of Service Summary (Cont'd)**

Intersection Approach		Control	Existing 2007		Build 2020		Build 2035	
			AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
Alternative 5	Route 9W/Western Ave	R						
	Route 9W NB LT		A (4.3)	A (4.8)	B (11.1)	D (37.5)	E (62.1)	<b>F (155.0)</b>
	Route 9W SB TR		A (2.8)	A (3.4)	A (3.2)	A (4.3)	A (8.3)	A (10.0)
	Western Ave EB LR		B (12.5)	B (10.3)	B (19.5)	B (12.7)	<b>F (143.0)</b>	C (24.2)
	Overall		A (4.7)	A (4.8)	A (8.7)	C (22.3)	D (49.0)	<b>F (86.2)</b>
	Route 9W/Young St	S						
	Route 9W NB T		B (14.6)	A (8.5)	B (18.5)	B (10.5)	D (41.9)	B (14.2)
	R		A (6.3)	A (1.2)	A (4.2)	A (1.0)	A (2.7)	A (1.3)
	Route 9W SB L		A (8.0)	A (2.4)	B (14.3)	A (4.3)	D (43.9)	B (10.0)
	T		A (8.7)	A (3.7)	B (13.9)	A (5.9)	D (41.0)	B (11.4)
Young Ave WB L	D (45.8)		D (47.9)	D (48.6)	D (45.6)	D (53.8)	D (45.7)	
R	C (27.2)	D (37.2)	C (26.6)	D (35.8)	C (27.0)	C (34.2)		
Overall		B (14.5)	A (7.2)	B (18.4)	A (9.1)	D (39.5)	B (13.6)	
Alternative 6	Route 9W/King St	S						
	Route 9W NB L		A (1.0)	A (0.7)	A (1.9)	A (1.1)	A (5.1)	A (2.7)
	T		A (6.0)	A (6.2)	A (8.3)	A (9.6)	B (14.5)	C (22.6)
	Route 9W SB T		A (2.0)	A (2.2)	A (2.7)	A (2.4)	A (2.7)	A (2.7)
	King St EB R		D (37.6)	D (38.8)	D (36.7)	D (37.7)	D (36.0)	D (36.7)
	Overall		A (6.3)	A (6.2)	A (7.7)	A (8.1)	B (10.6)	B (15.2)
	Route 9W/Western Ave	S						
	Route 9W NB T		A (2.6)	A (2.6)	A (3.2)	A (3.5)	A (4.9)	A (6.6)
	Route 9W SB TR		A (7.7)	A (5.3)	A (9.9)	A (7.9)	C (20.4)	B (12.7)
	Western Ave EB L		D (44.0)	D (43.0)	D (45.2)	D (42.8)	D (48.9)	D (43.5)
	Overall		A (8.3)	A (6.2)	A (9.8)	A (7.8)	B (16.0)	B (11.5)
	Route 9W/Young St	S						
	Route 9W NB T		B (16.7)	A (3.6)	C (20.1)	A (5.2)	D (44.1)	A (8.0)
	R		A (3.6)	A (0.6)	A (3.9)	A (0.5)	A (2.5)	A (0.5)
	Route 9W SB L		A (8.0)	A (2.4)	B (14.2)	A (4.3)	D (43.9)	B (10.0)
T	A (8.8)		A (3.7)	B (13.9)	A (5.9)	D (41.0)	B (11.4)	
Young Ave WB L	D (45.4)		D (47.9)	D (48.6)	D (45.6)	D (53.8)	D (45.7)	
R	C (27.4)	D (37.2)	C (26.8)	D (35.8)	C (27.0)	C (34.2)		
Overall		B (15.1)	A (5.0)	B (18.9)	A (6.7)	D (40.3)	B (10.8)	
Western Ave/King St	TW							
King St NB L		B (11.4)	B (11.8)	B (12.3)	B (12.8)	B (13.8)	B (14.8)	

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 --- = Not Applicable

## Public Comments – Workshop #2

The second Public Workshop was held on May 29, 2008 at 5:30 pm at the Marlboro Middle School. The purpose of the meeting was to present and receive comments on the transportation alternatives. The workshop began with an open house session in which the transportation alternatives for the Hamlet and the Overall Land Use and Transportation Recommendations were displayed at several stations. This was followed by a technical PowerPoint presentation and a question and answer period after which community members were asked to rank the transportation alternatives and the Overall Land Use and Transportation Recommendations. Community members were asked to rank the alternatives on a three tier scale; Satisfied, Somewhat Satisfied, Dissatisfied. Once ranking was completed, there was a group review of the ranking results and discussion of next steps. In general community members were concerned about losing on-street parking and the effect of the project on private property. Community members were encouraged to revisit the stations and to pose any closing questions or comments.



**Photograph 11: Public Meeting #2 Question and answer session.**



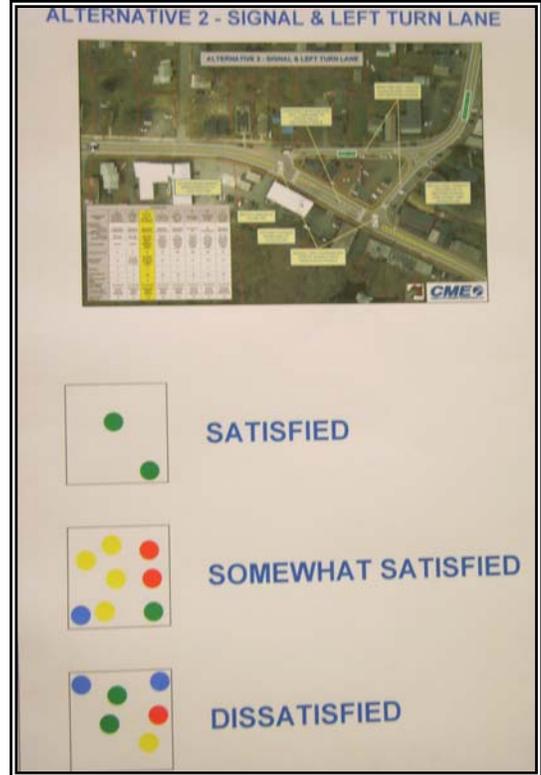
**Photograph 12: Public Meeting #2 alternative station.**

Two alternatives emerged from the public meeting; Alternative 2 and Alternative 6. Fifteen out of 16 people ranked Alternative 6 as either satisfied or somewhat satisfied while 10 out of 16 people ranked Alternative 2 as satisfied or somewhat satisfied. None of the other alternatives received more than five favorable rankings. While the participants at the public meeting generally preferred Alternative 6, the Advisory Committee agreed that both alternatives should be carried into the preliminary design phase of the project.

Comments received at Public Workshop #2 were considered in the development of the Final Plan. A detailed summary of Public Workshop #2 is included in Appendix C.



Photograph 13: Alternative 6 Ranking Results



Photograph 14: Alternative 2 Ranking Results

## IV. Preferred Intersection Alternatives and Implementation

### Preferred Intersection Alternatives

Alternatives 2 and 6 were chosen as the preferred intersection alternatives. In order to demonstrate the types of amenities and enhancements that would be included in the final project the concept plan for Alternative 2 was chosen to be refined and rendered. Figure IV.1 shows new sidewalks and crosswalks, an attractive maintenance strip between the sidewalk and the road and street trees and ornamental lights (where feasible). Curb bump-outs at certain intersections reduce pedestrian crossing distances and provide small public spaces for benches, landscaping and trash receptacles, a new public parking lot on King Street to replace parking spaces lost due to the project, and a new transit stop with a shelter.

**Figure IV.1 – Alternative 2 Rendering**



With the completion of the project, pedestrians will have improved facilities and safer crossings. The pedestrian system will be ADA compliant and will include accessible ramps with detectable warning and traffic signals with push button indicators and count down times. Residents who rely on transit will have improved mobility and accommodations. Vehicular traffic congestion will be minimized. The streetscape will be more attractive and inviting for local business. Altogether the project will improve mobility for all modes, while preserving and enhancing the historic character and economic vitality of the community.

The preferred intersection alternatives as well as the overall land use and transportation recommendations were presented to the public during Public Workshop #3, held on November 6, 2008. The purpose of the workshop was to present and receive comments on the draft Report. General themes and comments noted during Public Workshop #3 were summarized and are included in Appendix C.

## Implementation

Implementation of the overall land use and transportation recommendations within this report will take time. Many of the recommendations can only be implemented in response to proposed actions, such as a new development proposal. Fortunately, the primary intersection safety project within the Hamlet has already been programmed as discussed in section 2.9 of this report, meaning the Ulster County Transportation Council is planning to fund the project after 2012 (P.I.N. 8T0439). The current funding is listed at \$6.723M including all engineering and construction. The alternatives analysis within this report should serve as an initial scope with Alternatives 2 and 6 from this assessment evaluated further in terms of trade-offs, impacts and constructability.

Effective implementation of the recommendations within this plan requires coordination and cooperation with NYSDOT and UCTC. The community should continue its participation in the processes and funding decisions made by these agencies. Specific actions that should be taken by the Town include:

- Adoption of a resolution endorsing the recommendation in this plan and in particular the results of the community outreach that lead to the preferred alternatives.
- Adoption of the Land Use and Transportation Recommendations Map (Figure III.1) as an element of the Town's comprehensive plan in accordance with Town law.
- Make an official request to NYSDOT to implement the short term solutions in the plan that includes pedestrian safety, access management, and aesthetic improvements.
- Make an official request to NYSDOT/UCTC to advance planning and design funds for the project prior to 2012.
- Make an official request to NYSDOT/UCTC and the Orange County Transportation Council (OCTC) to initiate the necessary studies to ascertain demand for additional transit into Orange County.
- Consider the formation of a transportation implementation committee to undertake these efforts.
- Consider the need to conduct a second parking demand study during evening hours using the methodology in this plan.