

# CR 93 Corridor Management Plan



# CR 93 Corridor Management Plan



Prepared For



Prepared By



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# EXECUTIVE SUMMARY

This Corridor Management Plan summarizes preferred land use and short and long term travel improvement strategies, as well as cost estimates, implementation, and funding options. Land use and zoning strategies include recommendations to encourage appropriate redevelopment, promote access management, and preserve open space and agricultural land. Travel improvement strategies include operational improvements such as provision of turn pockets, signalization, signal timing changes, roundabouts, and application of access management techniques, as well as providing infrastructure for walking and bicycling. The preferred strategies are listed in the tables below.

Table ES-1  
**Summary of Land Use Strategies**

Strategies	
Parcel Specific Recommendations	<ul style="list-style-type: none"> <li>• Preserve Meadowbrook Farm and open space and agricultural portions of the Reese property.</li> <li>• Pursue redevelopment opportunities at Wappinger Plaza and adjacent areas, on the Reese property, and along the Route 9 corridor.</li> <li>• Pursue access management opportunities at the Wappinger Plaza driveway, Roy C. Ketcham High School/Blackthorn Loop East, Laerdal driveways, and DeGarmo Hills Road.</li> </ul>
Corridor Wide Recommendations	<ul style="list-style-type: none"> <li>• Implement access management strategies along CR 93:                             <ul style="list-style-type: none"> <li>➢ Limit the number of driveways;</li> <li>➢ Provide connections between sites via cross-access easements;</li> <li>➢ Maximize spacing between driveways by requiring a minimum of 150 feet of separation where possible; and</li> <li>➢ Encourage shared parking.</li> </ul> </li> <li>• Incorporate the following <i>Greenway Connections</i> principles wherever possible:                             <ul style="list-style-type: none"> <li>➢ Move buildings closer to the street; and</li> <li>➢ Provide parking lots to the rear of buildings.</li> </ul> </li> </ul>
Town Wide Recommendations	<ul style="list-style-type: none"> <li>• Modify the Site Plan and Special Use Permit sections of the Town's Zoning Law to require consideration of access management strategies.</li> <li>• Modify the Site Plan and Special Use Permit sections of the Town's Zoning Law to require consideration of sidewalks and other pedestrian infrastructure in all site plans, particularly in commercial areas.</li> <li>• Consider incorporating the following into the parking requirements in Section 240-94 through 100 of the Town Zoning Law:                             <ul style="list-style-type: none"> <li>➢ Maximum parking requirements</li> <li>➢ Reduced minimum parking requirements</li> <li>➢ Shared parking requirements</li> </ul> </li> <li>• Incorporate <i>Greenway Connections</i> principles into the Town Zoning Law where applicable and appropriate.</li> </ul>

Table ES-2  
**Summary of Short Term Travel Improvement Strategies**

Strategy	Location
Turn pockets	Route 9D <ul style="list-style-type: none"> <li>• Left turn pocket on Route 9D southbound.</li> <li>• Right turn pocket on Route 9D northbound.</li> <li>• Separate turn pockets on CR 93.</li> </ul>
	Major MacDonald Way <ul style="list-style-type: none"> <li>• Right turn pocket on CR 93 westbound.</li> </ul>
	Old Route 9 <ul style="list-style-type: none"> <li>• Left turn pocket on Old Route 9 northbound.</li> </ul>
	Losee Road <ul style="list-style-type: none"> <li>• Left turn pocket on Losee Road.</li> <li>• Right turn pocket on CR 93 eastbound.</li> </ul>
	Spook Hill Road <ul style="list-style-type: none"> <li>• Left turn pocket on Spook Hill Road.</li> <li>• Left turn pocket on CR 93 westbound.</li> </ul>
	Myers Corners Elementary School Driveway <ul style="list-style-type: none"> <li>• Left turn pocket on CR 93 westbound.</li> </ul>
Traffic Signal Upgrades	DeGarmo Hills Road <ul style="list-style-type: none"> <li>• Left turn pocket on CR 93 eastbound.</li> </ul>
	Route 376 <ul style="list-style-type: none"> <li>• Left turn pocket on Route 376 northbound.</li> <li>• Right turn pocket on CR 93.</li> </ul>
	<ul style="list-style-type: none"> <li>• Signal phasing changes at Route 9D and Route 9.</li> <li>• Signal timing improvements at Route 9D, Route 9, Marshall Road, Roy C. Ketcham High School Driveway, Laerdal Driveway East, and CR 94.</li> <li>• Signal equipment upgrades at Old Route 9, Roy C. Ketcham High School Driveway, and Laerdal Driveway East.</li> </ul>
New Traffic Signals	<ul style="list-style-type: none"> <li>• Spook Hill Road</li> </ul>
Access Management	<ul style="list-style-type: none"> <li>• Wappinger Plaza Driveway (right-in/right-out only) with connection to Marshall Road.</li> <li>• Blackthorn Loop West (right-in/right-out only).</li> <li>• Laerdal Driveway West (right-in/right-out only).</li> </ul>
Signage	<ul style="list-style-type: none"> <li>• Advance school signage and "No Turn on Red" sign at Route 9D</li> <li>• Lane use signage at Route 9.</li> </ul>

Table ES-2  
Summary of Short Term Travel Improvement Strategies

Strategy	Location
Stop Bars	<ul style="list-style-type: none"> <li>Install new or repaint stop bars on Major MacDonald Way, Hannaford Plaza Driveway, Losee Road, Robert Lane, Spook Hill Road, Blackthorn Loop West, Blackthorn Loop East, Ervin Drive, Kent Road, Laerdal Driveway West, and DeGarmo Hills Road; and on CR 93 at Spook Hill Road, Laerdal Driveway East, and Route 376.</li> </ul>
Intersection Sight Distance	<ul style="list-style-type: none"> <li>Improve intersection sight distance on Major MacDonald Way by moving stop bar forward.</li> <li>Improve intersection sight distance on Ervin Drive by removing vegetation and re-aligning the approach.</li> </ul>
Pavement Condition	<ul style="list-style-type: none"> <li>Improve pavement condition on CR 93 at Old Route 9.</li> </ul>

Table ES-3  
Summary of Long Term Travel Improvement Strategies

Strategy	Location
Roundabout	<ul style="list-style-type: none"> <li>CR 94 (All Angels Hill Road)</li> </ul>
Intersection Realignment	<ul style="list-style-type: none"> <li>Route 9D/Randolph School Driveway (align driveway with CR 93)</li> <li>Roy C. Ketcham High School Driveway (align with Blackthorn Loop East)</li> <li>Quaker Hill Road (align with Kent Road if Cranberry Hills development occurs)</li> </ul>
Traffic signalization	<ul style="list-style-type: none"> <li>Route 9D/Randolph School Driveway (replace existing signal)</li> <li>Ketcham High School Driveway/Blackthorn Loop East (replace existing signal)</li> <li>Kent Road/Quaker Hill Road (new traffic signal if needed based on Cranberry Hills traffic)</li> <li>Losee Road/Riverbend II driveway (new traffic signal if needed based on Riverbend II traffic)</li> <li>DeGarmo Hills Road/new shared driveway (new traffic signal)</li> </ul>
Access Management	<ul style="list-style-type: none"> <li>DeGarmo Hills Road (right-in/right-out only at two plaza driveways, shared access to commercial uses south of intersection, and cross-parcel access).</li> <li>Route 9/Wappinger Plaza- shared access between plaza &amp; gas station and raised median at Wappinger Plaza driveway.</li> </ul>
Sidewalks	<ul style="list-style-type: none"> <li>Between Route 9D and Ketcham High School on the north side of CR 93.</li> <li>Between Ketcham High School and Route 376 on the south side of CR 93.</li> </ul>
Crosswalks across CR 93	Crosswalks at Route 9D, Major McDonald Way, Old Route 9, Losee Road, Spook Hill Road, Blackthorn Loop West, Ketcham High School driveway, Kent Road, Laerdal Driveway East, and DeGarmo Hills Road.
Signage	<ul style="list-style-type: none"> <li>Advance pedestrian crossing signage (Major MacDonald Way, Blackthorn Loop West, and CR 94)</li> <li>"No Turn on Red" (Ketcham High School/Blackthorn Loop East)</li> </ul>
Bicycling	<ul style="list-style-type: none"> <li>5' shoulders along CR 93 for bicycle use</li> </ul>

Table ES-4  
Summary of Transit and Travel Demand Management (TDM) Strategies

Strategies	
Transit Service	<ul style="list-style-type: none"> <li>Improve existing service by increasing frequencies.</li> <li>Consider a new fixed route on CR 93.</li> <li>Implement a transit connection to Wappinger Plaza.</li> <li>Implement a transit connection to the Laerdal Property.</li> <li>Promote paratransit services.</li> </ul>
TDM Strategies	<ul style="list-style-type: none"> <li>Promote use of transit, carpooling, vanpooling, bicycling, and walking with the help of employers, schools, and shopping areas within the corridor.</li> <li>Target large employers, educational institutions, and large shopping centers to encourage parking management, financial incentives, flextime, on-site services, and other strategies.</li> </ul>

Funding and implementation responsibilities were identified for each strategy. **Table ES-5** summarizes the funding responsibilities and **Table ES-6** summarizes the implementation responsibilities of each entity (public agency or other party).

Table ES-5  
Summary of Funding Responsibilities

Agency/Entity	Responsibilities
Town of Wappinger	<ul style="list-style-type: none"> <li>• <b>Lead</b> effort to seek funds to construct sidewalks along CR 93.</li> <li>• <b>Assist</b> land trusts and conservation agencies in preserving Meadowbrook Farm and the open space and agricultural portions of the Reese property.</li> <li>• <b>Assist</b> effort to seek funds for planning, design, and construction of a secondary street parallel to Route 9.</li> </ul>
Dutchess County Department of Public Works	<ul style="list-style-type: none"> <li>• <b>Lead</b> funding for right-in/right out treatments (within existing right of way), turn pockets (on non-State roads), the re-alignment of Ervin Drive, signal upgrades (timing/detection), stop bar improvements, signage, and crosswalks.</li> <li>• <b>Lead</b> effort to seek federal funding for projects including the CR 93/CR 94 roundabout, traffic signalization, pavement repair at the CR 93/Old Route 9 intersection, and construction of a new pedestrian walkway over the Lake Oniad Stream at Kent Road.</li> <li>• <b>Lead</b> effort to seek funds for access management improvements on CR 93 such as right-in/right-out treatments (which require additional right of way) and a raised median island near the Wappinger Plaza driveway.</li> <li>• <b>Assist</b> in seeking funds to construct sidewalks along CR 93.</li> <li>• <b>Assist</b> property owners in pursuing shared access, shared driveways, and new roadway connections within existing commercial and retail developments.</li> <li>• <b>Assist</b> Wappinger Central School District in identifying funding to re-align the Ketcham High School driveway and make other improvements at the intersection.</li> <li>• <b>Assist</b> effort to seek funds for planning, design, and construction of a secondary street parallel to Route 9.</li> </ul>
New York State Department of Transportation	<ul style="list-style-type: none"> <li>• <b>Lead</b> funding for turn pockets, traffic signal upgrades, stop bars, signage, and crosswalks on State-owned and maintained roadways (Routes 9D, 9, and 376).</li> <li>• <b>Lead</b> effort to seek federal funds for constructing sidewalks along Route 9D and extending a sidewalk along Route 376 in the future.</li> <li>• <b>Lead</b> effort to seek funds for planning, design, and construction of a secondary street parallel to Route 9.</li> </ul>

Table ES-5  
Summary of Funding Responsibilities

Agency/Entity	Responsibilities
Wappinger Central School District	<ul style="list-style-type: none"> <li>• <b>Lead</b> effort to seek funds to re-align the Ketcham High School driveway opposite Blackthorn Loop East.</li> <li>• <b>Lead</b> effort to seek funds for upgrading the traffic signal at the Ketcham High School driveway.</li> <li>• <b>Assist</b> DCDPW in seeking funds for improvements at the three school driveway intersections (Major MacDonald Way, Ketcham High School driveway, and Myers Corners Elementary School driveway).</li> <li>• <b>Assist</b> the Town and DCDPW in seeking funds for sidewalks adjacent to the three school driveway intersections.</li> </ul>
Other property owners	<ul style="list-style-type: none"> <li>• <b>Lead</b> effort to seek funds to re-align the Randolph School driveway opposite CR 93 (Randolph School).</li> <li>• <b>Lead</b> effort to seek funding to preserve Meadowbrook Farm and the open space and agricultural portions of the Reese property (land trusts and conservation agencies).</li> <li>• <b>Lead</b> funding for the redevelopment of the Wappinger Plaza and adjacent areas along Route 9, the Reese property, and other areas (property owners).</li> <li>• <b>Lead</b> funding for access management improvements on private property, such as cross-parcel access and internal roadway connections (Wappinger Plaza/Mobil gas station, DeGarmo Hills Plaza/Gulf gas station, and Laerdal property owners).</li> <li>• <b>Lead</b> funding for roadway, intersection, and sidewalk improvements as part of new development (e.g. at Losee Road, Quaker Road/Kent Road, etc.)</li> <li>• <b>Lead</b> funding to upgrade traffic signal (detection/timing) at the CR 93/Laerdal Drive East intersection (Laerdal property owner).</li> <li>• <b>Lead</b> funding to establish a new sidewalk system within the Laerdal property to connect with sidewalks on CR 93 (Laerdal property owner).</li> <li>• <b>Assist</b> DCDPW and the Town in funding access management strategies at intersections, including right-in/right-out treatments and shared driveways (Wappinger Plaza/Mobil gas station, DeGarmo Hills Plaza/Gulf gas station, and Laerdal property owners).</li> <li>• <b>Assist</b> the Town in funding a sidewalk system along CR 93 (Riverbend II, Cranberry Hills, DeGarmo Hills Plaza/Gulf gas station, Laerdal property, and other property owners).</li> <li>• <b>Assist</b> DCDPW, the Town, and NYSDOT in funding the planning, design, and construction of a secondary street parallel to Route 9.</li> </ul>

Table ES-6  
Summary of Implementation Responsibilities

Agency/Entity	Responsibilities
Town of Wappinger	<ul style="list-style-type: none"> <li>• <b>Lead</b> effort to incorporate <i>Greenway Connections</i> principles along the corridor and into the Town Zoning Law.</li> <li>• <b>Lead</b> effort to amend the Comprehensive Plan and Town Zoning Law to consider access management strategies, pedestrian infrastructure improvements, and reduced parking requirements.</li> <li>• <b>Lead</b> effort to construct sidewalks and crosswalks along CR 93 and establish a mechanism for maintenance.</li> <li>• <b>Assist</b> NYSDOT and DCDPW in implementing traffic improvements such as turn pockets, roadway re-alignments, traffic signalization and signal upgrades, roundabout, access management strategies, signage, and stop bar improvements.</li> <li>• <b>Assist</b> property owners in redeveloping the Wappinger Plaza and adjacent areas along Route 9, the Reese property, and other areas.</li> <li>• <b>Assist</b> property owners in implementing access management at the DeGarmo Hills Plaza and on commercial properties south of the intersection.</li> <li>• <b>Assist</b> Laerdal and other property owners in establishing sidewalks to connect to sidewalks along CR 93.</li> <li>• <b>Assist</b> NYSDOT, DCDPW, and others in creating a secondary street parallel to Route 9.</li> </ul>
Dutchess County Department of Public Works	<ul style="list-style-type: none"> <li>• <b>Lead</b> effort to install or upgrade traffic signals and install turn pockets, stop bars, signage, and crosswalks (on non-State roads).</li> <li>• <b>Lead</b> design and construction of the CR 93/CR 94 roundabout, pavement repair near the CR 93/Old Route 9 intersection, a new pedestrian walkway over Lake Oniad Stream, re-alignment of Ervin Drive, and a secondary street parallel to Route 9.</li> <li>• <b>Lead</b> design and construction of access management improvements along CR 93, including right-in/right-out treatments and a raised median island on CR 93 near the Wappinger Plaza driveway; right-in/right-out treatments at the DeGarmo Hills Plaza and Blackthorn Loop West; and shared access and new roadway connections within other commercial and retail developments.</li> <li>• <b>Assist</b> in the construction of sidewalks along CR 93.</li> <li>• <b>Assist</b> property owners in redeveloping the Wappinger Plaza and adjacent areas along Route 9, the Reese property, and other areas.</li> <li>• <b>Assist</b> developers in re-aligning Losee Road and making intersection improvements as part of new development on the north side of the intersection.</li> </ul>

Table ES-6  
Summary of Implementation Responsibilities

Agency/Entity	Responsibilities
Dutchess County Department of Public Works	<ul style="list-style-type: none"> <li>• <b>Assist</b> developers in re-aligning Quaker Road and making intersection improvements as part of new development north of the intersection.</li> <li>• <b>Assist</b> Wappinger Central School District in re-aligning the Ketcham High School driveway and replacing the traffic signal at the intersection.</li> <li>• <b>Assist</b> the Randolph School in re-aligning the driveway opposite CR 93.</li> </ul>
New York State Department of Transportation	<ul style="list-style-type: none"> <li>• <b>Lead</b> installation of turn pockets, traffic signal upgrades, stop bars, signage, and crosswalks on State-owned and maintained roadways (Routes 9D, 9, and 376).</li> <li>• <b>Lead</b> construction of sidewalks along Routes 9D and 376.</li> <li>• <b>Assist</b> the Town and DCDPW with installation of sidewalks on CR 93 near State Route intersections.</li> <li>• <b>Assist</b> DCDPW, the Town, and others in implementing a secondary street parallel to Route 9.</li> <li>• <b>Assist</b> the Randolph School in re-aligning their driveway opposite CR 93.</li> </ul>
Wappinger Central School District	<ul style="list-style-type: none"> <li>• <b>Lead</b> design and construction to re-align the Ketcham High School driveway opposite Blackthorn Loop East.</li> <li>• <b>Lead</b> effort to upgrade the traffic signal at the Ketcham High School driveway.</li> <li>• <b>Lead</b> effort to pursue an agreement with DCDPW for maintenance and operation of the traffic signal at the Ketcham High School driveway.</li> <li>• <b>Assist</b> DCDPW in implementing improvements at the three school driveway intersections (Major MacDonald Way, Ketcham High School driveway, and Myers Corners Elementary School driveway).</li> <li>• <b>Assist</b> the Town and DCDPW in installing sidewalks and crosswalks adjacent to the three school driveway intersections.</li> </ul>
Other property owners	<ul style="list-style-type: none"> <li>• <b>Lead</b> design and construction to re-align the Randolph School driveway opposite CR 93 (Randolph School).</li> <li>• <b>Lead</b> effort to preserve Meadowbrook Farm and the open space and agricultural portions of the Reese property (land trusts and conservation agencies).</li> <li>• <b>Lead</b> redevelopment of the Wappinger Plaza and adjacent areas along Route 9, the Reese property, and other areas (Wappinger Plaza, the Reese property, and other property owners).</li> <li>• <b>Lead</b> effort to implement access management improvements on private property, such as cross-parcel access and internal roadway connections (Wappinger Plaza/Mobil gas station, DeGarmo Hills Plaza/Gulf gas station, Laerdal, and other property owners).</li> <li>• <b>Lead</b> roadway and intersection improvements as part of new development (e.g. at Losee Road, Quaker Road/Kent Road, etc.)</li> <li>• <b>Lead</b> sidewalk maintenance, based on the mechanism adopted by the Town (all property owners).</li> </ul>

Table ES-6  
Summary of Implementation Responsibilities

Agency/Entity	Responsibilities
Other property owners	<ul style="list-style-type: none"> <li>• <b>Lead</b> traffic signal upgrade (detection/timing) at the CR 93/Laerdal Drive East intersection (Laerdal property owner).</li> <li>• <b>Lead</b> implementation of a new sidewalk system within the Laerdal property to connect with sidewalks on CR 93 (Laerdal property owner).</li> <li>• Laerdal could <b>lead</b> an effort to pursue an agreement with DCDPW for maintenance and operation of the traffic signal at the Laerdal driveway.</li> <li>• <b>Assist</b> DCDPW and the Town in the design and construction of access management strategies at intersections, including right-in/right-out treatments and shared driveways (Wappinger Plaza/Mobil gas station, DeGarmo Hills Plaza/Gulf gas station, Laerdal, and other property owners).</li> <li>• <b>Assist</b> the Town in implementing a sidewalk system along CR 93 (Riverbend II, Cranberry Hills, DeGarmo Hills Plaza/Gulf gas station, Laerdal property, and other property owners).</li> <li>• <b>Assist</b> DCDPW, the Town, and NYSDOT in implementing a secondary street parallel to Route 9.</li> </ul>

# 1 INTRODUCTION

## 1.1 Study Overview

The Myers Corners Road/Middlebush Road corridor, also known as County Road (CR) 93, is one of the busiest east-west roads in Dutchess County, carrying over 18,000 vehicles a day. A number of locations along the corridor experience substantial delays, particularly during peak periods. There are also safety concerns at several locations and limited infrastructure for walking, bicycling, and transit. The Town and surrounding areas anticipate population and traffic growth in the future, which could deteriorate the already poor travel conditions in the corridor.

The CR 93 Corridor Management Plan began due to a request from the Town to the Dutchess County Department of Public Works (DCDPW), which recommended that the project be brought to the Poughkeepsie-Dutchess County Transportation Council (PDCTC) for placement on the Council's work program. The purpose of the CR 93 Corridor Management Plan is to:

***"...identify and recommend land use and transportation policies and projects that improve vehicular and non-vehicular travel for the entire length of CR 93 from State Route 9D to State Route 376."***

The Plan builds on information and analysis conducted throughout the project to assist and inform decision-makers, the public, local agencies, and other stakeholders about the causes of traffic congestion on the corridor and its relationship to land use and land use policies. Based on this analysis, the Plan recommends strategies to improve travel along the corridor.

## 1.2 Study Area Definition

The study area includes the entire length of CR 93, which extends between State Route (SR) 9D to the west and SR 376 to the east. The length of this corridor is approximately four and a half miles. A total of twenty (20) intersections within the study area were studied (see **Figure 1.1**). Key intersecting roadways include Route 9D, Old Route 9, Route 9, Losee Road, Spook Hill Road, CR 94 (All Angels Hill Road), and Route 376.

## 1.3 Study Goals and Objectives

Specific study goals and objectives derived from the project purpose are:

- **Goal #1 - Manage growth through appropriate land use and zoning controls**

**Objectives:**

- Encourage mixed use development in the corridor.
- Support redevelopment opportunities in the corridor.

- Preserve farmland, open space, and agricultural land adjacent to the corridor.
- Encourage access management principles, including shared driveways and cross parcel access between properties.

- **Goal #2 - Reduce congestion**

**Objectives:**

- Improve levels of service at poorly operating intersections.
- Implement geometric improvements at intersections to reduce delay.
- Reduce the number of access points by implementing access management techniques.

- **Goal #3 - Improve safety**

**Objectives:**

- Reduce the number of conflict points by implementing access management techniques.
- Implement safety improvements at intersections to reduce the potential for crashes.
- Create a safer environment for pedestrians and bicyclists in the corridor.

- **Goal #4 - Improve conditions for walking, bicycling, and transit**

**Objectives:**

- Provide pedestrian and bicycle facilities along the corridor.
- Enhance transit service.
- Encourage carpooling, vanpooling, transit, walking and bicycling to reduce the number of single occupant vehicles.

## 1.4 Technical Reports

This Corridor Management Plan summarizes the preferred land use and short and long term travel improvement strategies and includes cost estimates, an implementation plan, and funding options. Earlier in the study process, three reports were developed to present technical information and findings:

- **Technical Memorandum #1** – This report presented an analysis of existing land use and transportation conditions. Table 1.1 summarizes the issues and observations resulting from the existing conditions analysis:

Table 1.1  
Summary of Technical Memorandum #1

Issues	Observations
Future Growth	<ul style="list-style-type: none"> <li>27 percent of the land area in the corridor is vacant.</li> <li>85 percent of the vacant land is zoned residential.</li> <li>70 percent of vacant land is between Route 9 and CR 94.</li> </ul>
Congestion/Delays	<ul style="list-style-type: none"> <li>7 of the 20 study intersections operate at a poor level of service (LOS F), either overall or for certain movements.</li> <li>Of the seven intersections, one is a signalized intersection and the remaining six are stop controlled.</li> <li>Three intersections operate at LOS F during the A.M. peak hour and six intersections operate at LOS F during the P.M. peak hour. Three intersections operate at LOS F during the Saturday mid-day peak hour.</li> </ul>
Safety	<ul style="list-style-type: none"> <li>At ten locations – 8 intersections and 2 segments-- the crash rate exceeds the statewide rate.</li> <li>There is a high percentage of rear-end crashes in the corridor.</li> </ul>
Alternative Transportation (bicycling, walking, and transit)	<ul style="list-style-type: none"> <li>There is limited infrastructure for non-vehicular modes (walking and bicycling) in the corridor.</li> <li>There is limited transit service in the corridor.</li> </ul>

- Technical Memorandum #2** – This report presented an analysis of future (year 2020) land use and transportation conditions. Table 1.2 summarizes the issues and observations resulting from the future conditions analysis:

Table 1.2  
Summary of Technical Memorandum #2

Issue	Observations
Future Land Use	<ul style="list-style-type: none"> <li>Approximately 20 percent of the analysis areas in the corridor are expected to experience high growth by 2020. However, this growth consists of only a few major developments.</li> <li>Cranberry Hills is the largest residential development anticipated to be complete by 2020.</li> <li>The Laerdal property is the largest office development expected by 2020 in the corridor. The existing vacant space in two of its buildings is anticipated to be mostly occupied by 2020.</li> </ul>
Future Growth	<ul style="list-style-type: none"> <li>Traffic growth is estimated to range between 0.3 to 1.6 percent per year in the corridor.</li> <li>Higher growth is anticipated in the eastern portion of the corridor.</li> </ul>

Table 1.2  
Summary of Technical Memorandum #2

Issue	Observations
Congestion/Delays	<ul style="list-style-type: none"> <li>4 of the 6 signalized intersections are anticipated to operate at LOS E or worse either overall or for certain movements in 2020.</li> <li>9 of the 14 un-signalized intersections are anticipated to operate at LOS F for the side street left turn movement in 2020.</li> <li>The CR 93/Route 9 intersection is anticipated to experience significant delays and queuing in 2020, thereby impacting adjacent intersections including Old Route 9, Wappinger Plaza, and Marshall Road.</li> <li>The CR 93/CR 94 intersection is anticipated to experience significant delays and queuing during the P.M. peak hour.</li> <li>Losee Road, Spook Hill Road, Kent Road, Ervin Drive, Blackthorn Loop West, Myers Corners Elementary School driveway, and Major MacDonald Way are expected to experience LOS F during peak periods.</li> </ul>
Safety	<ul style="list-style-type: none"> <li>The projected higher volumes, congestion and delays in the future are likely to create unsafe conditions. At stop-controlled intersections, drivers making left turns may be overly aggressive due to the lack of gaps in traffic. At signalized intersections, drivers may follow vehicles too closely to try to avoid delays at the intersection.</li> </ul>

- Technical Memorandum #3** – This report focused on identifying and developing potential land use, zoning, and travel improvement options to address future concerns. Table 1.3 summarizes the land use and zoning options identified in Technical Memorandum #3:

Table 1.3

Summary of Land Use and Zoning Options – Technical Memorandum #3

Recommendations	Options
Parcel Specific Recommendations	<ul style="list-style-type: none"> <li>Preserve Meadowbrook Farm and open space and agricultural portions of the Reese property.</li> <li>Pursue redevelopment opportunities at Wappinger Plaza and adjacent areas, on the Reese property, and along the Route 9 corridor as outlined above.</li> </ul>
Corridor Wide Recommendations	<ul style="list-style-type: none"> <li>Implement access management strategies along CR 93                             <ul style="list-style-type: none"> <li>Limit the number of driveways;</li> <li>Provide connections between sites via cross-access easements;</li> <li>Maximize spacing between driveways by requiring a minimum of 150 feet of separation where possible; and</li> <li>Encourage shared parking.</li> </ul> </li> <li>Incorporate the following <i>Greenway Connections</i> principles wherever possible:                             <ul style="list-style-type: none"> <li>Move buildings closer to the street; and</li> <li>Provide parking lots to the rear of buildings.</li> </ul> </li> </ul>
Townwide Recommendations	<ul style="list-style-type: none"> <li>Consider incorporating the following into the parking requirements in Section 240-94 through 100 of the Town Zoning Law:                             <ul style="list-style-type: none"> <li>Maximum parking requirements</li> <li>Reduced minimum parking requirements</li> <li>Shared parking requirements</li> </ul> </li> <li>Incorporate <i>Greenway Connections</i> principles into the Town Zoning Law where applicable and appropriate.</li> </ul>

Table 1.4 summarizes the short term travel improvement options identified in Technical Memorandum #3:

Table 1.4

Summary of Short Term Improvement Options - Technical Memorandum #3

Option	Intersection on CR 93
Turn pockets	<p><b>Route 9D</b></p> <ul style="list-style-type: none"> <li>Left turn pocket on Route 9D southbound.</li> <li>Right turn pocket on Route 9D northbound.</li> <li>Separate turn pockets on CR 93.</li> </ul> <p><b>Major MacDonald Way</b></p> <ul style="list-style-type: none"> <li>Left turn pocket on Major MacDonald Way.</li> <li>Right turn pocket on CR 93 westbound.</li> </ul> <p><b>Old Route 9</b></p> <ul style="list-style-type: none"> <li>Left turn pocket on Old Route 9.</li> </ul>

Option	Intersection on CR 93
Turn pockets	<p><b>Losee Road</b></p> <ul style="list-style-type: none"> <li>Left turn pocket on Losee Road.</li> <li>Right turn pocket on CR 93 eastbound.</li> </ul> <p><b>Robert Lane</b></p> <ul style="list-style-type: none"> <li>Left turn pocket on Robert Lane.</li> </ul> <p><b>Spook Hill Road</b></p> <ul style="list-style-type: none"> <li>Left turn pocket on Spook Hill Road.</li> <li>Left turn pocket on CR 93 westbound.</li> </ul> <p><b>Ervin Drive</b></p> <ul style="list-style-type: none"> <li>Left turn pocket on Ervin Drive.</li> </ul> <p><b>Kent Road</b></p> <ul style="list-style-type: none"> <li>Left turn pocket on Kent Road.</li> </ul> <p><b>Myers Corners Elementary School Driveway</b></p> <ul style="list-style-type: none"> <li>Left turn pocket on MCES Driveway.</li> <li>Left turn pocket on CR 93 westbound.</li> </ul> <p><b>DeGarmo Hills Road</b></p> <ul style="list-style-type: none"> <li>Left turn pocket on CR 93 eastbound.</li> </ul> <p><b>Route 376/Business Driveway</b></p> <ul style="list-style-type: none"> <li>Left turn pocket on Route 376 Northbound.</li> <li>Right turn pocket on CR 93.</li> </ul>
Signal Upgrade /Signalization	<ul style="list-style-type: none"> <li>Signal phasing changes at Route 9D and Route 9.</li> <li>Signal timing improvements at Route 9D, Route 9, Marshall Road, Roy C. Ketcham High School Driveway, Laerdal Driveway East, and CR 94.</li> <li>Signal equipment upgrades at Old Route 9, Roy C. Ketcham High School Driveway, and Laerdal Driveway East.</li> <li>New traffic signal at Spook Hill Road.</li> </ul>
Access Management	<ul style="list-style-type: none"> <li>Wappinger Plaza Driveway (right-in/right-out) with connection to Marshall Road.</li> <li>Blackthorn Loop West (right-in/right-out).</li> <li>Laerdal Driveway West (right-in/right-out).</li> </ul>
Signage	<ul style="list-style-type: none"> <li>Advance school signage at Route 9D.</li> </ul>
Stop Bar	<ul style="list-style-type: none"> <li>Install new or repaint stop bar at Major MacDonald Way, Wappinger Plaza Driveway, Losee Road, Robert Lane, Spook Hill Road, Blackthorn Loop West, Blackthorn Loop East, Ervin Drive, Kent Road, Laerdal Driveway West, and DeGarmo Hills Road.</li> <li>Install new or repaint stop bars on CR 93 at Spook Hill Road, Laerdal Driveway East, and Route 376.</li> </ul>
Intersection Sight Distance	<ul style="list-style-type: none"> <li>Improve intersection sight distance at Major MacDonald Way and Ervin Drive.</li> </ul>
Pavement Condition	<ul style="list-style-type: none"> <li>Improve pavement condition on CR 93 at Old Route 9.</li> </ul>

Table 1.5 summarizes the long term travel improvement options identified in Technical Memorandum #3:

Table 1.5  
Summary of Long Term Improvement Options- Technical Memorandum #3

Option	Location on CR 93
Roundabout	<ul style="list-style-type: none"> <li>Route 9D.</li> <li>CR 94.</li> </ul>
Intersection Realignment and Signalization	<ul style="list-style-type: none"> <li>Route 9D and Randolph School Driveway.</li> <li>Blackthorn Loop East and Roy C. Ketcham High School Driveway.</li> <li>Kent Road and Quaker Hill Road (if Cranberry Hills development is completed).</li> </ul>
Access Management	<ul style="list-style-type: none"> <li>DeGarmo Hills Road.</li> <li>Route 9/Wappinger Plaza- shared access between plaza &amp; gas station and raised median at Wappinger Plaza driveway.</li> </ul>
Sidewalks	<p><b>On one side</b></p> <ul style="list-style-type: none"> <li>Between Route 9D and Roy C. Ketcham High School on the north side.</li> <li>Between Roy C. Ketcham High School and Route 376 on the south side.</li> </ul> <p><b>On both sides</b></p> <ul style="list-style-type: none"> <li>Between Losee Road and Kent Road.</li> </ul>
Crosswalks across CR 93	Crosswalks at Route 9D, Major McDonald Way, Old Route 9, Route 9, Losee Road, Spook Hill Road, Blackthorn Loop West, Roy C. Ketcham High School driveway, Kent Road, Laerdal Driveway East, and DeGarmo Hills Road.
Bicycling	<ul style="list-style-type: none"> <li>5' shoulders along CR 93 for shared bicycle use.</li> </ul>

Table 1.6 summarizes the transit and travel demand management (TDM) options identified in Technical Memorandum #3:

Table 1.6  
Summary of Transit and TDM Options – Technical Memorandum #3

Option	Intersection on CR 93
Transit Service	<ul style="list-style-type: none"> <li>Improve existing service by increasing frequencies.</li> <li>New Fixed Route on CR 93.</li> <li>Connection to Wappinger Plaza.</li> <li>Connection to Laerdal Property.</li> <li>Promote paratransit services.</li> </ul>
TDM Strategies	<ul style="list-style-type: none"> <li>Promote use of transit, carpooling, vanpooling, bicycling, and walking with the help of employers, schools, and shopping areas within the corridor</li> <li>Target large employers, educational institutions, and large shopping centers and encourage use of regional strategies.</li> </ul>

The full documents were posted on the project website and will be available on the PDCTC website ([www.dutchessny.gov/pdctc.htm](http://www.dutchessny.gov/pdctc.htm)) under Publications.

## 2 PUBLIC OUTREACH PROCESS

### 2.1 Advisory Committee Meetings

An Advisory Committee was created to provide feedback and guidance to the consultant team. The consultant team was led by Wilbur Smith Associates, supported by Frederick P. Clark Associates and M.J. Engineering. The Advisory Committee represented the following agencies:

- DCDPW Engineering Division
- New York State Department of Transportation (NYSDOT) Region 8, Planning and Safety Divisions
- Town of Wappinger Town Board and Planning Board
- Village of Wappingers Falls
- Wappinger Central School District

A total of **five (5)** Advisory Committee meetings were held over the course of the project:

- **Advisory Committee Meeting #1** – Conducted on July 7, 2009 as a kick-off meeting for the project. Agenda items included: background and scope of project, study area intersections, role of advisory committee, project website, and project schedule.
- **Advisory Committee Meeting #2** – Conducted on November 9, 2009 to review the existing conditions report (Technical Memorandum #1). Agenda items included: comments on Technical Memorandum #1, outreach for the first public meeting, draft presentation and format for the public meeting, and project schedule.
- **Advisory Committee Meeting #3** – Conducted on September 24, 2010 to present the future build-out report (Technical Memorandum #2). Agenda items included: review of Technical Memorandum #2, presentation of preliminary travel improvement strategies, and project schedule.
- **Advisory Committee Meeting #4** – Conducted on December 14, 2010 to present a draft of the potential improvement strategies (Technical Memorandum #3). Agenda items included: review of land use and travel improvement strategies in Technical Memorandum #3, date and format for second public meeting, and project schedule.
- **Advisory Committee Meeting #5** – Conducted on February 28, 2011 to discuss feedback from the second public meeting. Agenda items included: selection of preferred short and long term strategies, discussion of sidewalks along the corridor, format for the final public meeting (Town Board workshop), and preparation of the draft corridor management plan.

### 2.2 Public Meetings

Three public meetings were conducted over the course of the project:

- **Public Meeting #1** – Conducted on November 18, 2009 to present an analysis of existing land use and transportation conditions in the corridor. Public comments were solicited at the meeting, via comment forms distributed at the meeting, and through the project website. This meeting was attended by over 60 people. Key feedback received related to traffic operations, congested locations, safety issues, walking and bicycling conditions, transit service, and future development in the corridor.
- **Public Meeting #2** – Conducted on January 27, 2011 to present potential land use and travel improvement strategies. The meeting included a presentation and an open house for the public to review and discuss the strategies with the project team. Public comments were solicited at the meeting, via comment forms distributed at the meeting, and through the project website. This meeting was attended by about 40 people. Key feedback received related to proposed turning lanes, sidewalks, and concerns about speeding and truck traffic.
- **Town Board Workshop** – Conducted on May 9, 2011 to present preferred land use and travel improvement strategies. The meeting included a presentation and discussion of key strategies with the Town Board and the public. This meeting was attended by about 40 people including the Town Board and members of the Advisory Committee. Key feedback received related to sidewalks, a roundabout at CR 94 (All Angels Hill Road), Marshall Road and Wappinger Plaza, and funding and implementation.

*Comments from the public meetings are included in **Appendix A** of this document.*

### 2.3 Project Website

A project website (<http://www.townofwappinger.us/CR93/>) was developed to share project-related information such as meeting notices, technical memoranda, presentations, and reports with stakeholders and the public. After completion of the study, project materials will be available on the PDCTC website at <http://www.dutchessny.gov/pdctc.htm> under Publications.

### 3 PREFERRED LAND USE AND TRAVEL IMPROVEMENT STRATEGIES

The project team developed a series of potential land use and travel improvement strategies through an evaluation of existing and future conditions in the corridor. The potential strategies were discussed with the Advisory Committee and presented at the second public meeting for feedback. Based on the feedback received, and after further discussion with the Advisory Committee, the potential strategies were refined. The Advisory Committee then assisted the project team in selecting preferred land use and transportation strategies. These were presented at the Town Board Workshop and refined further based on feedback. This chapter summarizes the Town's adopted comprehensive plan and the preferred land use and travel improvement strategies.

#### 3.1 Town of Wappinger Comprehensive Plan

The Town of Wappinger adopted a new Comprehensive Plan on September 27, 2010. The Comprehensive Plan includes the following goals and objectives relevant to the study area:

1. Encourage the preservation of environmentally significant features.
  - Establish, preserve and/or restore open space corridors;
  - Regulate the development of floodplains, wetlands, stream corridors, steep slopes and ridge lines to ensure minimal disruption of their environmental functions and scenic qualities;
  - Preserve the quality and quantity of the Town's surface and groundwater resources through land use regulation; and
  - Protect surface water quality through regulation of stormwater runoff.
2. Improve housing choice in the Town by encouraging a balance of housing types and sizes that meet the needs of existing and future Wappinger residents and employees.
3. Encourage development with high aesthetic standards to provide a visual and natural environment that will promote economic stability, enhance community character, and be compatible with surrounding land uses.
  - Improve the appearance of Route 9 corridor;
  - Develop the Old Route 9 District as a vibrant, traditional town/village center; and
  - Protect important landscapes through open space and farmland conservation.

4. Encourage the development of a transportation system consistent with Town land use patterns and objectives, including public transportation, pedestrian and bicycle systems.
  - Improve traffic conditions on Route 9 and Route 9D;
  - Use transportation improvements as a positive factor in shaping growth;
  - Require service roads, internal connections and combined parking lots, where appropriate;
  - Minimize the number of access points on major and collector roads;
  - Develop a sidewalk network and bikeway system connecting community facilities, centers and schools; and
  - Improve street connectivity between neighborhoods as new areas area developed.
5. Guide the development of the Town in a way that preserves environmentally significant features, improves housing choice, and encourages a balanced economy.
  - Designate areas of the Town intended for low-density residential development, farmland protection, and open space;
  - Designate areas of the Town that are well situated for medium- and high-density residential development;
  - Designate areas of the Town that, due to transportation links, the intensity of proximate land uses and other features, are appropriate for current and future use as Town centers; and
  - Designate areas of the Town where only commercial, industrial, or institutional land uses are appropriate.

The Plan also discusses integrating land use and transportation, and includes a recommendation to encourage higher density and mixed land use in existing commercial areas that support transit, reduce traffic, improve local identity, provide opportunities for public space, and promote pedestrian activity.

The Comprehensive Plan evaluated the Town's existing zoning and provides recommendations for zoning modifications intended to meet the goals and objectives of the Comprehensive Plan, including those identified above.

According to the Comprehensive Plan, the portion of the study area along Route 9 is proposed to be rezoned from Highway Business to Mixed Use, and the existing Planned Industry zones in the study area (two adjacent properties at the southeast corner of the intersection of Route 9 and CR 93, and the Laerdal property) are proposed to be rezoned to the Highway Business, Conservation Commercial, and Conservation Office Park zoning districts, respectively. Further, a portion of the study area at the northwest corner of the intersection of CR 94 and CR 93 is proposed to be rezoned from the R-20 1-Family Residence District to the R-40 1-Family Residence District. The proposed non-residential re-zonings will result in changes to the allowable uses from commercial to mixed use, and from industrial to commercial or office uses. The residential rezoning will result in roughly a 50% decrease in the permitted single-family density.

### 3.2 Preferred Land Use Strategies

The preferred land use strategies were developed to reduce the impact of development on transportation access and safety in the corridor. Strategies include preserving farmland, redeveloping existing commercial sites, encouraging shared parking, and combining access points. These strategies were based on a review of the Town's recently adopted Comprehensive Plan and current zoning regulations. The project goals (described in Chapter 1) addressed by each strategy are shown in parentheses. Figure 2.1 highlights the areas where land use strategies are recommended.

#### 3.2.1 Parcel Specific Strategies

1. *Pursue Meadowbrook Farm and open space and agricultural portions of the Reese property (Goal #1).*

The preservation of farmland will reduce the amount of traffic-generating development in the CR 93 corridor. The Meadowbrook Farm and portions of the Reese property provide opportunities for continued agricultural use in the CR 93 corridor. The approximately 60-acre Meadowbrook farm currently operates as farmland and its preservation in its current state is a great asset to the Town.

Aside from its potential for reducing potential traffic, the preservation of portions of the Reese property also provides the opportunity to maintain a traditional rural character adjacent to the Wheeler Hill Historic District.

The Meadowbrook Farm and Reese property currently participate in the County's Agricultural District Certification program, which encourages the continued use of farmland for agricultural production through preferential property tax treatment and protections against overly restrictive local laws, government-funded acquisition or construction projects, and private nuisance suits.

2. *Pursue redevelopment opportunities at Wappinger Plaza and adjacent areas, on portions of the Reese property, and along the Route 9 corridor (Goal #1).*

Although there are no current plans for the redevelopment of Wappinger Plaza, the potential redevelopment of this property and adjacent properties in the future offers an opportunity to

improve travel conditions and the character of the area. The development of portions of the Reese property offers a long term opportunity for traffic impact mitigation through lower density and clustered development.

The Comprehensive Plan encourages compact development, mixed use, infill and higher densities in the Old Route 9/Route 9 corridor in order to create more vibrant commercial centers, make efficient use of public facilities and infrastructure, and to increase pedestrian activity within this area.

3. *Pursue access management opportunities at the Wappinger Plaza driveway, Roy C. Ketcham High School/Blackthorn Loop East, Laerdal driveways, and DeGarmo Hills Road.*

The following access management strategies are proposed in the corridor:

#### Short Term Opportunities

- a. Route 9/Wappinger Plaza Driveway  
Convert the plaza driveway to right-in/right-out only with a physical island to prevent left turns. Improve the connection to Marshall Road between the commercial buildings and Hollowbrook offices. Marshall Road is a private road owned by Hollowbrook and may have to become a public road if an improved connection is to be made.
- b. Blackthorn Loop West  
Convert Blackthorn Loop West to right-in/right-out only with a physical island. Blackthorn Loop East would continue to provide full access.
- c. Laerdal Driveway West  
Convert the western Laerdal Driveway to right-in/right out only with a physical island to prevent left turns. Laerdal Driveway East would continue to provide full access.

#### Long Term Opportunities

- a. Route 9/Wappinger Plaza Driveway  
Create a connection between the gas station and Wappinger Plaza parking lot at the northwest corner of the gas station property. Provide a raised median island on CR 93 to prevent left turns in and out of the Wappinger Plaza driveway.
- b. DeGarmo Hills Road  
On the north side of CR 93, east of the intersection:
  - a. Convert the gas station driveway to right-in/right out only with a physical island. (Note: this driveway could be right-in only and exiting vehicles could use DeGarmo Hills Road).
  - b. Convert the center driveway to right-in/right-out only with a physical island.
  - c. Direct left turn movements into or out of the plaza to DeGarmo Hills Road or the eastern-most driveway.

- d. Provide cross parcel access between the two properties. Note: A rear access road behind the plaza could also be considered to connect the properties.

On the south side of CR 93:

- a. Provide access to the commercial properties south of the intersection via a new shared driveway aligned with DeGarmo Hills Road.
- b. Provide cross parcel access between the two properties.

Examples of access management improvements are shown in the concepts for Wappinger Plaza, Blackthorn Loop West, Laerdal Driveway West, and DeGarmo Hills Road.

### 3.2.2 Corridor Wide Strategies

#### 1. Implement access management strategies along CR 93 (Goal # 1, 2, and 3)

- Limit the number of driveways;
- Provide connections between sites via cross-access easements;
- Maximize spacing between driveways by requiring a minimum of 150 feet of separation where possible; and
- Encourage shared parking.

Example of access management strategies is shown in concepts for Wappinger Plaza driveway, Blackthorn Loop East and West, Laerdal driveways, and DeGarmo Hills Road.

#### 2. Incorporate Greenway Connections principles wherever possible (Goal #1):

- Move buildings closer to the street; and
- Provide parking lots to the rear of buildings.

### 3.2.3 Town Wide Strategies

1. Amend the Comprehensive Plan to recommend modification of the Site Plan and Special Use Permit sections of the Town's Zoning Law to require consideration of access management strategies, and thereafter amend the Zoning Law accordingly (Goal # 1, 2, and 3).
2. Amend the Comprehensive Plan to recommend modification of the Site Plan and Special Use Permit sections of the Town's Zoning Law to require consideration of sidewalks and other pedestrian infrastructure in all site plans, particularly in commercial areas, and thereafter amend the Zoning Law accordingly (Goal #4).
3. Consider incorporating the following into the parking requirements in Section 240-94 through 100 of the Town Zoning Law (Goal #1):
  - Maximum parking requirements
  - Reduced minimum parking requirements
  - Shared parking requirements

4. Incorporate *Greenway Connections* principles into the Town Zoning Law where applicable and appropriate (Goal #1).

### 3.3 Preferred Travel Improvement Strategies

Short and long term travel improvement strategies were developed to address existing and anticipated future transportation conditions at intersections along the corridor. Recommendations also included improving infrastructure for walking and bicycling, enhancing transit service, and travel demand management techniques. These strategies address the study's goals (described in Chapter 1) to reduce congestion, improve safety, and improve conditions for walking, bicycling, and transit. The existing conditions at each intersection are shown in Figures E.1-E.14. The Short and Long Term Improvement Strategies are shown in Figures 3.1-3.28.

**Short term** strategies are improvements which could be implemented quickly (within ten years) and do not require additional right-of-way, utility relocations, or environmental mitigation. These are relatively low cost in nature.

**Long term** strategies are improvements which would likely require more time for implementation (over ten years) and require right-of-way, potential utility relocations, or environmental mitigation. These are higher cost strategies.

The preferred short and long term strategies are described below for each intersection, moving from west to east along the corridor. The project goals addressed by each strategy are shown under Benefits in parentheses. A planning-level cost estimate is provided for each set of improvements. **Sidewalk costs are estimated for the entire corridor and are provided in Section 3.2.22. Crosswalk costs are included in the long term strategy costs for the applicable intersections.** Additional right-of-way would be required for some of the strategies. This is noted under the estimated cost.

#### 3.3.1 CR 93 and Route 9D

##### Short Term Improvement Strategy

**Description (see Figure 3.1):**

1. Add a left turn pocket on Route 9D in the southbound direction.
2. Add a right turn pocket on Route 9D in the northbound direction.
3. Provide separate turn pockets on CR 93.
4. Provide advance school signs in both directions on Route 9D.
5. Signalize the Randolph School exit driveway and create split phase operation with CR 93.
6. Provide protected-permissive signal phasing in the southbound direction on Route 9D.
7. Install a "No Turn on Red" sign for the Route 9D northbound approach.
8. Provide signal timing changes to accommodate turn pockets and signal phasing change.

**Benefits:**

- ✓ An advance traffic signal phase for southbound left turns on Route 9D reduces delay and queuing for southbound traffic (Goal #2).

- ✓ The addition of turn pockets on Route 9D and CR 93 increases the intersection's capacity and reduces delay (**Goal #2**).
- ✓ A southbound turn pocket increases safety at the intersection by minimizing conflicts between southbound left-turning vehicles on Route 9D and northbound through vehicles on Route 9D (**Goal #3**).
- ✓ A southbound turn pocket reduces the potential for rear-end crashes (**Goal #3**).
- ✓ Signalizing the Randolph School driveway and adding a "No Turn on Red" sign improves the ability of school traffic to safely exit the driveway (**Goal #3**).
- ✓ Advance school signs alert drivers to presence of school children (**Goal #3**).

**Estimated Cost - \$220,000.** This does not include utility relocation and earthwork/grading costs. It is anticipated that the improvement could be constructed within the existing right-of-way.

### Long Term Improvement Strategy

**Description (see Figure 3.2):**

#### **Short Term Improvement #1-4 plus:**

1. Convert the Randolph School's existing southern driveway to two-way access, align it opposite CR 93, and connect it to the existing traffic signal.
2. Provide signal timing changes as a result of the intersection improvements and signal phasing change.
3. Provide sidewalks on both sides of Route 9D north of the CR 93 intersection. These should be connected to existing sidewalks in the Village.
4. Begin sidewalk on the north side of CR 93 east of the Route 9D intersection.
5. Provide a sidewalk on west side of Route 9D south of the CR 93 intersection.
6. Provide a crosswalk on the north leg of the intersection.
7. Provide crosswalk across the Randolph School driveway.

#### **Benefits:**

- ✓ Realigning the Randolph School driveway opposite CR 93 increases safety and reduces delay for exiting traffic. (**Goal #2 and 3**).
- ✓ The provision of sidewalks and crosswalks enhances pedestrian connectivity and safety along the corridor, and provides access to the Randolph School (**Goal #4**).

**Estimated Cost (in addition to the short term cost) – \$220,000.** This does not include right-of-way, environmental mitigation, utility relocation, earthwork/grading, and sidewalk costs.

### **3.3.2 CR 93 and Major MacDonald Way/Town Hall Driveway**

#### Short Term Improvement Strategy

**Description (see Figure 3.3):**

1. Provide a right turn pocket on CR 93 in the westbound direction.
2. Improve intersection sight distance on Major MacDonald Way by moving the stop bar forward.
3. Install a stop bar on the Town Hall driveway.

#### **Benefits:**

- ✓ A right turn pocket on westbound CR 93 allows westbound through traffic to bypass traffic turning into Major MacDonald Way (**Goal #3**).
- ✓ A right turn pocket on CR 93 reduces delay for left turn movements exiting Major MacDonald Way by reducing the opposing traffic volume (**Goal #2**).
- ✓ A right turn pocket improves safety by reducing the likelihood of rear-end and angle crashes associated with turning vehicles (**Goal #3**).
- ✓ Stop bars improve safety by encouraging drivers to stop where maximum sight distance is achieved (**Goal #3**).

**Estimated Cost - \$50,000.** This does not include utility relocation and earthwork/grading costs). It is anticipated that the improvement could be constructed within the existing right-of-way.

### Long Term Improvement Strategy

**Description (see Figure 3.4):**

#### **Short Term Improvement plus:**

1. Continue the sidewalk on the north side of CR 93.
2. Provide crosswalks on the north and west sides of the intersection.
3. Provide advance signage on CR 93 to notify motorists of the pedestrian crossing.

#### **Benefits**

- ✓ Advance pedestrian crossing signage increases safety by alerting motorists of the upcoming pedestrian crossing (**Goal #3**).
- ✓ The provision of sidewalks and crosswalks enhances pedestrian connectivity and safety along the corridor and provides access to the Town Hall and Wappingers Falls Junior High School (**Goal #4**).

**Estimated Cost (in addition to the short term cost) – \$2,500.** This does not include sidewalk costs.

### **3.3.3 CR 93 and Old Route 9**

#### Short Term Improvement Strategy

**Description (see Figure 3.5):**

1. Provide a left turn pocket on the northbound approach of Old Route 9.
2. Upgrade the traffic signal to fully actuated operation.
3. Provide 12" lenses on the signal heads.
4. Improve the pavement condition in the vicinity of the intersection.
5. Provide signal timing changes as a result of the signal upgrade. Coordinate eastbound/westbound CR 93 signal phasing with signal phasing for CR 93 at Route 9.

#### **Benefits**

- ✓ Signal timing changes, actuated operation, and phasing coordination reduce delay at the intersection (**Goal #2**).
- ✓ The addition of a left turn pocket increases the intersection's capacity and reduces delay (**Goal #2**).
- ✓ Larger signal head lenses enable motorists to more easily see the traffic signal (**Goal #3**).
- ✓ Improved pavement condition increases safety by reducing the likelihood of crashes (**Goal #3**).

**Estimated Cost - \$170,000.** This does not include utility relocation and earthwork/grading costs. It is anticipated that the improvement could be constructed within the existing right-of-way.

### Long Term Improvement Strategy

**Description (see Figure 3.6):**

#### **Short Term Improvement plus:**

1. Continue the sidewalk on the north side of CR 93.
2. Provide crosswalks on the north and east sides of the intersection.

#### **Benefits**

- ✓ The provision of sidewalks and crosswalks enhances pedestrian connectivity and safety along the corridor, and provides access to adjacent commercial properties (**Goal #4**).

**Estimated Cost (in addition to the short term cost) – \$2,000.** This does not include sidewalk costs.

### **3.3.4 CR 93 and Route 9**

#### Short Term Improvement Strategy

**Description (see Figure 3.7):**

1. Move northbound and southbound stop bars on Route 9 back and eliminate split signal phasing so that eastbound and westbound traffic can move at the same time.
2. Provide signal timing changes as a result of the signal phasing change.
3. Coordinate signal phasing for the CR 93 movement with the Old Route 9 and Marshall Road intersections.
4. Install sign on the Route 9 southbound approach indicating that "left turns should use both lanes."
5. Convert gas station driveway on CR 93 to right-in/right-out only.

#### **Benefits**

- ✓ Removal of the split signal phasing provides more green time for Route 9 movements and reduces delay for Route 9 and CR 93 traffic (**Goal #2**).
- ✓ The reduction in delay reduces congestion and the potential for rear-end crashes (**Goal #2 and 3**).
- ✓ Left turn signage encourages more equal utilization of left turn pockets, reducing delay and queuing on the Route 9 southbound approach (**Goal #2**).

- ✓ Right-in/right-out treatment at the gas station driveway eliminates left turns and therefore reduces queuing and conflicts associated with turning vehicles at the driveway (**Goal #1, 2, and 3**).

**Estimated Cost - \$40,000.** It is anticipated that the improvement could be constructed within the existing right-of-way.

### Long Term Improvement Strategy

**Description (see Figure 3.8):**

#### **Short Term Improvement plus:**

1. Continue the sidewalk on the north side of CR 93.
2. Provide a crosswalk on the north side of the intersection.
3. Create a pedestrian refuge island in the median on the north side of the intersection.
4. Create a connection between the gas station and Wappinger Plaza parking lot at the northwest corner of the gas station property.

#### **Benefits**

- ✓ A connection between the gas station and plaza reduces traffic on CR 93 and therefore reduces delay and conflicts on CR 93 (**Goal #1, 2, and 3**).
- ✓ A pedestrian refuge island provides a waiting area for pedestrians who require more time to cross Route 9 (**Goal #3**).
- ✓ The provision of sidewalks and crosswalks enhances pedestrian connectivity and safety along the corridor and provides access to Wappinger Plaza and adjacent commercial properties (**Goal #4**).

**Estimated Cost (in addition to the short term cost) – \$51,000.** This does not include sidewalk costs.

### **3.3.5 CR 93 and Wappinger Plaza Driveway**

#### Short Term Improvement Strategy

**Description (see Figure 3.7):**

1. Convert the plaza driveway to right-in/right-out only with a physical island to prevent left turns.
2. Install a stop bar on the Wappinger Plaza driveway.
3. Improve the connection to Marshall Road between the commercial buildings and Hollowbrook offices. Note: Marshall Road is a private road owned by Hollowbrook and may have to become a public road if an improved connection is to be made.

#### **Benefits**

- ✓ Eliminating left turns at the plaza driveway improves traffic flow on CR 93 by eliminating back to back left turns at the plaza driveway and Marshall Road (**Goal #1, 2, and 3**).
- ✓ Eliminating left turns in and out at the plaza driveway increases safety at the intersection by reducing the potential for angle and rear-end crashes (**Goal #3**).

- ✓ A stop bar improves safety by improves safety by encouraging drivers to stop where maximum sight distance is achieved (**Goal #3**).
- ✓ An improved connection between the plaza and Marshall Road reduces traffic on CR 93 and therefore reduces delay and conflicts on CR 93 (**Goal #1, 2, and 3**).

**Estimated Cost - \$50,000.** This does not include utility relocation and earthwork/grading costs. It is anticipated that the improvement could be constructed within the existing right-of-way. The cost assumes that the connection to Marshall Road is improved by repaving the existing roadway. Additional costs would be incurred if a different alignment is proposed.

### Long Term Improvement Strategy

**Description (see Figure 3.8):**

#### **Short Term Improvement plus:**

1. Continue the sidewalk on the north side of CR 93.
2. Provide a crosswalk on the north side of CR 93.
3. Provide a raised median island on CR 93 to prevent left turns in and out of the Wappinger Plaza driveway.
4. Re-direct LOOP Routes A, B, and the New Hamburg RailLink into the Wappinger Plaza to drop off and pick up passengers including workers and local shoppers.

#### **Benefits**

- ✓ A raised median island enforces the right-in/right-out treatment at the driveway and therefore increases safety at the intersection (**Goal #1, 2, and 3**).
- ✓ The provision of sidewalks and crosswalks enhances pedestrian connectivity and safety along the corridor and provides access to Wappinger Plaza, DCC South, and adjacent commercial properties (**Goal #4**).
- ✓ Re-directing LOOP buses into the Wappinger Plaza increases access to transit for local workers and shoppers (**Goal #4**).

**Estimated Cost (in addition to the short term cost) – \$160,000.** This does not include utility relocation, earthwork/grading, and sidewalk costs. LOOP bus service costs have not been determined.

### Route 9 Secondary Street System

**Description (see Figure 3.9):**

Creation of a secondary street system parallel to Route 9 is a long term proposal supported by DCDPW, the Town, and the Village of Wappingers Falls. The proposal includes:

- A new street east of Route 9 between New Hackensack Road and CR 93, intersecting CR 93 between the Wappinger Plaza driveway and Marshall Road. The roadway section could include two 11-foot travel lanes, a 5-foot landscaped buffer and 5-foot sidewalk on one side of the road, and an 8-foot buffer for utilities.

- East-west roadway connections to East Main Street, Old Route 9, and other locations between the secondary street and Route 9.
- Redesigning intersections on Route 9 to remove at least one of the three signalized intersections, increase the spacing between intersections, and restrict left turns.
- Specific intersection changes and connections from south to north could include:
  - Create a full four-way signal at Old Route 9 with a through street on the east side of Route 9.
  - Eliminate the left turn from Route 9 northbound onto Wenliss Terrace.
  - Eliminate the left turn from Route 9 southbound just north of Wenliss Terrace.
  - Eliminate the intersection at Route 9 and McDonald's (just south of East Main Street).
  - Create a full four-way signalized intersection at Route 9 and East Main Street with a through street on the east side of Route 9.
  - Consider eliminating the intersection at New Hackensack Rd and re-aligning it to meet Route 9 either south or north of the drugstore on the east side of Route 9.
  - Consider an extension of Imperial Boulevard north of New Hackensack Road behind the storage unit facility, connecting to a four-way intersection at North Mesier Ave/Scenic Drive.

#### **Benefits**

- ✓ Provides opportunities to eliminate signals and turn pockets on Route 9 and reduce curb cuts on Route 9 and CR 93, thereby improving traffic flow and reducing conflict points (**Goal #2 and 3**).
- ✓ Creates the opportunity to eliminate the Marshall Road intersection on CR 93 and provide signalized access on CR 93 at the secondary street (**Goal #2**).
- ✓ Increases access to retail, commercial, residential and educational uses in the area (**Goal #1**).
- ✓ The secondary street and Route 9 improvements would enable additional Village-type commercial and residential development along Route 9 and the new interconnected street network east of Route 9 (**Goal #1**).

**Estimated Cost -** Costs are unknown at this time.

### 3.3.6 CR 93 and Marshall Road

#### Short Term Improvement Strategy

**Description (see Figure 3.10):**

1. Provide signal timing improvements to accommodate additional left turns to/from the Wappinger Plaza.
2. Extend the eastbound left turn pocket on CR 93 to provide additional vehicle queuing capacity.
3. Coordinate the signal phasing for the CR 93 movement with the phasing at Route 9.

#### **Benefits**

- ✓ An extended turn pocket, signal timing changes, and signal phasing coordination accommodates additional left turn movements, reducing backups and delay (**Goal #2**).

**Estimated Cost - \$40,000.** This does not include utility relocation and earthwork/grading costs. It is anticipated that the improvement could be constructed within the existing right-of-way.

### Long Term Improvement Strategy

**Description (see Figure 3.11):**

#### **Short Term Improvement, plus:**

1. Continue the sidewalk on the north side of CR 93.
2. Provide a crosswalk on the north side of the intersection.

#### **Benefits**

- ✓ The provision of sidewalks and crosswalks enhances pedestrian connectivity and safety along the corridor and provides access to DCC South, adjacent businesses, and the Riverbend development (**Goal #4**).

**Estimated Cost (in addition to the short term cost) – \$700.** This does not include sidewalk costs.

### **3.3.7 CR 93 and Losee Road**

#### Short Term Improvement Strategy

**Description (see Figure 3.10):**

1. Provide a right turn pocket on CR 93 in the eastbound direction.
2. Provide a left turn pocket on Losee Road.
3. Install a stop bar on Losee Road.
4. Realign Losee Road to the west, opposite the Riverbend II driveway (assuming that Riverbend II is constructed).

#### **Benefits**

- ✓ A turn pocket on Losee Road reduces vehicle queuing by allowing right-turning traffic on Losee Road to bypass left-turning traffic (**Goal #2**).
- ✓ A turn pocket on CR 93 improves safety by reducing the likelihood of rear-end and angle crashes associated with turning vehicles (**Goal #3**).
- ✓ A stop bar improves safety by encouraging drivers to stop where maximum sight distance is achieved (**Goal #3**).
- ✓ Realigning Losee Road opposite the Riverbend II driveway creates a standard four-way intersection and therefore reduces delay and conflicts at the intersection (**Goal #2 and 3**).

**Estimated Cost - \$70,000.** This does not include utility relocation and earthwork/grading costs. It is anticipated that the improvement could be constructed within the existing right-of-way.

### Long Term Improvement Strategy

**Description (see Figure 3.11):**

#### **Short Term Improvement plus:**

1. Install a traffic signal at the intersection (if needed based on Riverbend II traffic).
2. Continue the sidewalk on the north side of CR 93.
3. Provide crosswalks on the north and east sides of the intersection.

#### **Benefits**

- ✓ A traffic signal, if installed, reduces delay on Losee Road and at the Riverbend II driveway (**Goal #2**).
- ✓ The provision of sidewalks and crosswalks enhances pedestrian connectivity and safety along the corridor and provides access between residential areas and nearby destinations (**Goal #4**).

**Estimated Cost (in addition to the short term cost) – \$140,000.** This does not include utility relocation and sidewalk costs.

### **3.3.8 CR 93 and Robert Lane**

#### Short Term Improvement Strategy

**Description (see Figure 3.12):**

1. Install a stop bar on Robert Lane.

#### **Benefits**

- ✓ A stop bar improves safety by encouraging drivers to stop where maximum sight distance is achieved (**Goal #3**).

**Estimated Cost - \$100.** This does not require additional right-of-way.

### Long Term Improvement Strategy

**Description (see Figure 3.13):**

#### **Short Term Improvement, plus:**

1. Continue the sidewalk on the north side of CR 93.
2. Provide a crosswalk on the north side of the intersection.

#### **Benefits**

- ✓ The provision of sidewalks and crosswalks enhances pedestrian connectivity and safety along the corridor and provides access between residential areas and nearby destinations (**Goal #4**).

**Estimated Cost (in addition to the short term cost) – \$700.** This does not include sidewalk costs.

### 3.3.9 CR 93 and Spook Hill Road

#### Short Term Improvement Strategy

##### Description (see Figure 3.12):

1. Provide a left turn pocket on CR 93 in the westbound direction.
2. Provide a left turn pocket on Spook Hill Road.
3. Install a traffic signal at the intersection.
4. Install stop bars on CR 93 and Spook Hill Road.

##### Benefits

- ✓ A traffic signal reduces delay at the intersection by providing time for left turning vehicles to exit Spook Hill Road while CR 93 traffic is stopped (**Goal #2**).
- ✓ Turn pockets on CR 93 and Spook Hill Road create additional capacity and reduce vehicle queues (**Goal #2**).
- ✓ A turn pocket on CR 93 improves safety by reducing the potential for rear-end crashes between left-turning and through vehicles on CR 93 (**Goal #3**).
- ✓ Stop bars improve safety by encouraging drivers to stop where maximum sight distance is achieved (**Goal #3**).

**Estimated Cost - \$300,000.** This does not include utility relocation and earthwork/grading costs. It is anticipated that the improvement could be constructed within the existing right-of-way.

#### Long Term Improvement Strategy

##### Description (see Figure 3.13):

##### Short Term Improvement, plus:

1. Continue the sidewalk on the north side of CR 93.
2. Provide a crosswalk on the west side of the intersection.

##### Benefits

- ✓ The provision of sidewalks and crosswalks enhances pedestrian connectivity and safety along the corridor and provides access between residential areas and nearby destinations (**Goal #4**).

**Estimated Cost (in addition to the short term cost) – \$700.** This does not include sidewalk costs.

### 3.3.10 CR 93 and Blackthorn Loop West

#### Short Term Improvement Strategy

##### Description (see Figure 3.12):

1. Convert Blackthorn Loop West to right-in/right-out only with a physical island. Blackthorn Loop East would continue to provide full access.
2. Install a stop bar on Blackthorn Loop West.

##### Benefits

- ✓ Eliminating left turns in and out at Blackthorn Loop West reduces delay and queuing at the intersection (**Goal #2**).
- ✓ Eliminating left turns in and out at Blackthorn Loop West increases safety at the intersection by reducing conflicts, particularly because there is limited sight distance looking right on CR 93 (**Goal #3**).
- ✓ A stop bar improves safety by encouraging drivers to stop where maximum intersection sight distance is achieved (**Goal #3**).

**Estimated Cost - \$30,000.** This does not include utility relocation and earthwork/grading costs. It is anticipated that the improvement could be constructed within the existing right-of-way.

#### Long Term Improvement Strategy

##### Description (see Figure 3.13):

##### Short Term Improvement, plus:

1. Continue the sidewalk on the north side of CR 93.
2. Provide a crosswalk on the west side of the intersection.
3. Provide advance signage on CR 93 to notify motorists of the pedestrian crossing.

##### Benefits

- ✓ Advance pedestrian crossing signage increases safety by alerting motorists of the upcoming pedestrian crossing (**Goal #3**).
- ✓ The provision of sidewalks and crosswalks enhances pedestrian connectivity and safety along the corridor and provides access between residential areas and nearby destinations (**Goal #4**).

**Estimated Cost (in addition to the short term cost) – \$2,000.** This does not include sidewalk costs.

### 3.3.11 CR 93 and Blackthorn Loop East

#### Short Term Improvement Strategy

##### Description (see Figure 3.14):

1. Install a stop bar on Blackthorn Loop East to maximize intersection sight distance looking left.

##### Benefits

- ✓ A stop bar improves safety by encouraging drivers to stop where maximum intersection sight distance is achieved (**Goal #3**).

**Estimated Cost - \$100.** This improvement does not require additional right-of-way.

### Long Term Improvement Strategy

#### Description (see *Figure 3.15*):

1. Re-align the Ketcham High School driveway opposite Blackthorn Loop East to form a four-way intersection.
2. Install a traffic signal at the realigned intersection in place of the existing traffic signal at the Ketcham High School driveway. Note: The School District could pursue an agreement with the Dutchess County Department of Public Works for maintenance and operation of the traffic signal.
3. Provide eastbound and westbound left turn pockets on CR 93.
4. Provide a right turn pocket on CR 93 in the westbound direction.
5. Re-stripe the Ketcham High School driveway as a left turn and shared through-right lane.
6. Install stop bars on CR 93, Blackthorn Loop East, and the Ketcham High School driveway.
7. Install "No Turn on Red" signs for the southbound and westbound approaches.
8. End the sidewalk on the north side of CR 93 west of the intersection.
9. Begin a sidewalk on the south side of CR 93 east of the intersection.
10. Provide crosswalks on the north and east sides of the intersection.

#### Benefits

- ✓ Re-aligning the Ketcham High School driveway opposite Blackthorn Loop East creates a single point of access to CR 93 at a four-way intersection. This reduces delay and conflicts at the intersection (*Goal #2 and 3*).
- ✓ Re-aligning the high school driveway with Blackthorn Loop East increases the spacing between the driveway and Ervin Drive, which creates additional gaps for traffic to exit Ervin Drive (*Goal #2 and 3*).
- ✓ Relocating the traffic signal to serve Blackthorn Loop East improves safety, because there is poor intersection sight distance looking left at Blackthorn Loop East (*Goal #2 and 3*).
- ✓ A right turn pocket on westbound CR 93 separates school and through traffic, thereby reducing delay and back-ups during peak school periods (*Goal #2*).
- ✓ Left turn pockets on CR 93 create additional capacity and reduce vehicle queues (*Goal #2*).
- ✓ A left turn pocket on the high school driveway creates additional capacity and reduces vehicle queues (*Goal #2*).
- ✓ Stop bars improve safety by encouraging drivers to stop where maximum intersection sight distance is achieved (*Goal #3*).
- ✓ No turn on red signs improve safety by reducing conflicts between vehicles and pedestrians (*Goal #3*).
- ✓ The provision of sidewalks and crosswalks enhances pedestrian connectivity and safety along the corridor and provides access to the high school (*Goal #4*).

**Estimated Cost - \$820,000.** This does not include right-of-way, utility relocation, environmental mitigation, earthwork/grading, and sidewalk costs.

### 3.3.12 CR 93 and Roy C. Ketcham High School Driveway

#### Short Term Improvement Strategy

#### Description (see *Figure 3.14*):

1. Upgrade the traffic signal with new vehicle loop detection.
2. Provide 12" lenses on the signal heads.

#### Benefits

- ✓ New vehicle detection reduces delay at the intersection (*Goal #2*).
- ✓ Larger signal lenses increase the visibility of the signal by motorists (*Goal #3*).

**Estimated Cost - \$70,000.** This does not require additional right-of-way.

#### Long Term Improvement Strategy

#### Description (see *Figure 3.15*):

Please refer to the Blackthorn Loop East Long Term Improvement Strategy (Section 3.3.11).

### 3.3.13 CR 93 and Ervin Drive

#### Short Term Improvement Strategy

#### Description (see *Figure 3.14*):

1. Clear trees on both sides of Ervin Drive and re-align the approach to be perpendicular to CR 93 to improve intersection sight distance.
2. Install a stop bar on Ervin Drive.

#### Benefits

- ✓ Clearing vegetation and re-aligning Ervin Drive perpendicular to CR 93 increases the intersection sight distance to the recommended desirable sight distance (*Goal #3*).
- ✓ A stop bar improves safety by encouraging drivers to stop where maximum intersection sight distance is achieved (*Goal #3*).

**Estimated Cost - \$30,000.** This does not include utility relocation and earthwork/grading costs. It is anticipated that improvement could be constructed within existing right-of-way.

#### Long Term Improvement Strategy

#### Description (see *Figure 3.15*):

#### *Short Term Improvement, plus:*

1. Continue the sidewalk on the south side of CR 93.
2. Provide a crosswalk on the south side of the intersection.

### Benefits

- ✓ The provision of sidewalks and crosswalks enhances pedestrian connectivity and safety along the corridor and provides access to the high school ([Goal #4](#)).

**Estimated Cost (in addition to the short term cost) – \$800.** This does not include sidewalk costs.

### 3.3.14 CR 93 and Kent Road

#### [Short Term Improvement Strategy](#)

##### Description (see [Figure 3.16](#)):

1. Install a stop bar on Kent Road.

### Benefits

- ✓ A stop bar improves safety by encouraging drivers to stop where maximum intersection sight distance is achieved ([Goal #3](#)).

**Estimated Cost - \$100.** This does not require additional right-of-way.

#### [Long Term Improvement Strategy](#)

##### Description (see [Figure 3.17](#)):

Note: Items #1-5 assume that the Cranberry Hills development is completed.

1. Re-align Quaker Road opposite Kent Road and provide a southbound left turn pocket.
2. Re-stripe Kent Road as a left turn lane and a shared through-right lane.
3. Provide a left turn pocket on CR 93 in the eastbound direction.
4. Install stop bars on C9 93, Kent Road, and Quaker Road.
5. Install a traffic signal.
6. Continue the sidewalk on the south side of the intersection (continuation of this sidewalk requires a walkway over Lake Oniad Stream).
7. Provide crosswalks on the east and south sides of the intersection.

### Benefits

- ✓ Re-aligning Quaker Road opposite Kent Road allows a single point of access to CR 93 at a four-way intersection. This reduces delay and conflicts at the intersection ([Goal #2 and 3](#)).
- ✓ A traffic signal reduces delay at Kent Road by providing time for left turn movements to exit Kent Road while CR 93 traffic is stopped ([Goal #2](#)).
- ✓ Turn pockets create additional capacity and reduce vehicle queues ([Goal #2](#)).
- ✓ Stop bars improve safety by encouraging drivers to stop where maximum intersection sight distance is achieved ([Goal #3](#)).
- ✓ The provision of sidewalks and crosswalks enhances pedestrian connectivity and safety along the corridor ([Goal #4](#)).

**Estimated Cost - \$660,000.** This does not include utility relocation, environmental mitigation, earthwork/grading, and sidewalk costs. The cost does include replacing the existing culvert to add a sidewalk over Lake Oniad Stream.

### 3.3.15 CR 93 and Myers Corners Elementary School Driveway

#### [Short Term Improvement Strategy](#)

##### Description (see [Figure 3.18](#)):

1. Provide a left turn pocket on CR 93 in the westbound direction.
2. Install a stop bar on the Myers Corners Elementary School driveway.

### Benefits

- ✓ A left turn pocket on CR 93 allows through vehicles to pass buses and cars waiting to turn left into the Myers Corners Elementary School ([Goal #2](#)).
- ✓ A left turn pocket on CR 93 improves safety by reducing the likelihood of rear-end and angle crashes associated with turning vehicles ([Goal #3](#)).
- ✓ A stop bar improves safety by encouraging drivers to stop at a location where maximum intersection sight distance is achieved ([Goal #3](#)).

**Estimated Cost - \$130,000.** This does not include utility relocation and earthwork/grading costs. It is anticipated that the improvement could be constructed within the existing right-of-way.

#### [Long Term Improvement Strategy](#)

##### Description (see [Figure 3.19](#)):

##### **Short Term Improvement, plus:**

1. Continue the sidewalk on the south side of CR 93.
2. Provide a crosswalk on the south side of the intersection.

### Benefits

- ✓ The provision of sidewalks and crosswalks enhances pedestrian connectivity and safety along the corridor and provides access to the elementary school ([Goal #4](#)).

**Estimated Cost (in addition to the short term cost) – \$800.** This does not include sidewalk costs.

### 3.3.16 CR 93 and Laerdal Driveways (West and East)

#### [Short Term Improvement Strategy](#)

##### Description (see [Figures 3.18 and 3.20](#)):

1. Convert the western Laerdal Driveway to right-in/right out only with a physical island.
2. Install stop bars on Laerdal Driveway West, Laerdal Driveway East, and CR 93 at Laerdal Driveway East.

3. Upgrade the traffic signal with new vehicle loop detection.
  4. Adjust the traffic signal at Laerdal Driveway East to operate normally (with red/yellow/green indications) every day of the week during peak periods. Signal timings would be adjusted based on traffic volumes on the driveway. During off-peak periods, adjust the signal to rest on green for CR 93. (Currently, on weekdays the traffic signal operates on flash mode from 8 P.M. to 12 noon and operates normally from 12 noon to 8 P.M. During weekends, the traffic signal operates on flash mode for the entire day).
  5. Provide signal timing changes as a result of the signal upgrade.
- Note: Laerdal could negotiate an agreement to pay the Dutchess County Department of Public Works to maintain and assist with operations of the signal.

#### Benefits

- ✓ Converting the signal at the Laerdal Driveway East to normal operation during peak hours and to favor CR 93 during off-peak periods reduces driver confusion and reduces delay on CR 93 (**Goal #2 and 3**).
- ✓ Traffic signal detection and signal timing changes reduce delay at the intersection (**Goal #2**).
- ✓ Eliminating left turns in and out at Laerdal Driveway West reduces delay and queuing at the intersection (**Goal #2**).
- ✓ Eliminating left turns in and out at Laerdal Driveway West increases safety at the intersection by reducing potential conflicts due to limited sight distance looking east (**Goal #3**).
- ✓ A stop bar improves safety by encouraging drivers to stop at a location where maximum intersection sight distance is achieved (**Goal #3**).

#### Estimated Cost

**Laerdal Driveway West: \$20,000.** This does not include utility relocation and earthwork/grading costs. It is anticipated that the improvement could be constructed within the existing right-of-way.

**Laerdal Driveway East: \$140,000.** This does not include utility relocation costs. This improvement does not require additional right-of-way.

#### Long Term Improvement Strategy

**Description (see Figures 3.19 and 3.21):**

##### **Short Term Improvement, plus:**

1. Continue the sidewalk on the south side of CR 93. Note: The sidewalk on the south side of the intersection should be coordinated with the proposed development across from the Laerdal Driveway West.
2. Provide a crosswalk on the west side of the CR 93/Laerdal Driveway East intersection.
3. A sidewalk system should be created within the Laerdal property to connect to the sidewalks on CR 93.
4. Re-direct the LOOP New Hamburg RailLink into the Laerdal property during commuter peak periods to serve local commuters.

#### Benefits

- ✓ The provision of sidewalks and crosswalks enhances pedestrian connectivity and safety along the corridor and provides access to the offices in the Laerdal property (**Goal #4**).
- ✓ Re-directing LOOP buses into the Laerdal property improves transit access for local workers and commuters (**Goal #4**).

#### Estimated Cost (in addition to the short term cost)

**Laerdal Driveway West:** No additional cost except for sidewalk costs.

**Laerdal Driveway East: \$800.** This does not include sidewalk costs.

#### 3.3.17 CR 93 and CR 94

##### Short Term Improvement Strategy

Traffic signal optimization was considered as a short term strategy, but the analysis indicated that the current signal timings are optimal. Therefore, no short term improvement strategy was identified at this location. The signal operations should be monitored and timing adjustments made as needed.

##### Long Term Improvement Strategy

**Description (see Figure 3.22):**

1. Provide a roundabout intersection with two lanes on the CR 93 eastbound approach and the CR 94 northbound approach, and a single lane on the CR 93 westbound approach and the CR 94 southbound approach. Westbound and southbound right-turning traffic would have a yield-controlled slip lane to bypass the roundabout. Note: The Dutchess County Department of Public Works should evaluate the design and modify it as needed.
2. Provide a sidewalk on the south side of CR 93.
3. Provide a crosswalk on the south side of the intersection.
4. Provide advance signage on CR 94 northbound notifying motorists of the pedestrian crossing.

#### Benefits

- ✓ A roundabout increases the capacity of the intersection, reducing congestion and delay (**Goal #2**).
- ✓ A roundabout provides better access to trucks and emergency vehicles as they can more easily make turns, including u-turns (**Goal #2**).
- ✓ A roundabout lowers traffic speeds, thereby reducing the severity of any crashes (**Goal #3**).
- ✓ A roundabout eliminates left turns and red-light running, reducing crashes. Roundabouts have been found to reduce fatalities by more than 90 percent<sup>1</sup> and injuries by 76 percent<sup>2</sup> (**Goal #3**).

<sup>1</sup> Safety Effect of Roundabout Conversions in the United States: Empirical Bayes Observational Before-After Study." Transportation Research Record 1751, Transportation Research Board (TRB), National Academy of Sciences (NAS), Washington, D.C., 2001.

<sup>2</sup> NCHRP Report 572: Roundabouts in the United States. National Cooperative Highway Research Program, TRB, NAS, Washington, D.C., 2007.

- ✓ The provision of sidewalks and crosswalks enhances pedestrian connectivity and safety along the corridor (**Goal #4**).

Note: see Appendix B for more information about roundabouts.

**Estimated Cost - \$2,890,000.** This does not include right-of-way, utility relocation, environmental mitigation, earthwork/grading, and sidewalk costs.

### 3.3.18 CR 93 and DeGarmo Hills Road

#### Short Term Improvement Strategy

**Description (see Figure 3.23):**

1. Provide a left turn pocket on CR 93 in the eastbound direction.
2. Install a stop bar on DeGarmo Hills Road.

Note: These improvements should be incorporated into the Dutchess County Department of Public Works' planned safety improvement project.

#### **Benefits**

- ✓ A left turn pocket on CR 93 allows through traffic to bypass left-turning traffic, reducing queuing (**Goal #2**).
- ✓ A left turn pocket on CR 93 improves safety by reducing the likelihood of rear-end crashes associated with turning vehicles (**Goal #3**).
- ✓ A stop bar improves safety by encouraging drivers to stop at a location where maximum intersection sight distance is achieved (**Goal #3**).

**Estimated Cost - \$100,000.** This does not include utility relocation and earthwork/grading costs. It is anticipated that the improvement could be constructed within the existing right-of-way.

#### Long Term Improvement Strategy

**Description (see Figure 3.24):**

1. On the north side of CR 93, east of the intersection:
  - a. Convert the gas station driveway to right-in/right out only with a physical island. (Note: this driveway could be right-in only and exiting vehicles could use DeGarmo Hills Road).
  - b. Convert the center driveway to right-in/right-out only with a physical island.
  - c. Direct left turn movements into or out of the plaza to DeGarmo Hills Road or the eastern-most driveway.
  - d. Provide cross parcel access between the two properties. Note: A rear access road behind the plaza could also be considered to connect the properties.
2. On the south side of CR 93:
  - a. Provide access to the commercial properties south of the intersection via a new shared driveway aligned with DeGarmo Hills Road.
  - b. Provide cross parcel access between the two properties.
3. Install stop bars on DeGarmo Hills Road, the new driveway, and the reconfigured driveways.
4. Provide left turn pockets on CR 93 in the eastbound and westbound directions.

5. Provide a traffic signal at the intersection.
6. Continue the sidewalk on the south side of CR 93.
7. Provide crosswalks on the east and south sides of the intersection.

#### **Benefits**

- ✓ The reconfigured driveways improve traffic flow on CR 93 by reducing left turns from and to CR 93 (**Goal #2**).
- ✓ A traffic signal allows for protected left turn movements in and out of the commercial properties, reducing backups and increasing safety (**Goals #2 & 3**).
- ✓ Turn pockets create additional capacity and reduce vehicle queuing (**Goal #2**).
- ✓ A shared driveway reduces curb cuts and therefore reduces delay and conflicts on CR 93 (**Goals #2 & 3**).
- ✓ Cross parcel access between properties reduces traffic on CR 93 (**Goal #2**).
- ✓ A turn pocket on CR 93 improves safety by reducing the potential for rear-end crashes between left-turning and through vehicles on CR 93 (**Goal #3**).
- ✓ The reconfigured driveways improve safety by reducing the likelihood of angle and rear-end crashes associated with turning vehicles (**Goal #3**).
- ✓ Stop bars improve safety by encouraging drivers to stop at a location where maximum intersection sight distance is achieved (**Goal #3**).
- ✓ The provision of sidewalks and crosswalks enhances pedestrian connectivity and safety along the corridor and provides access to the plaza (**Goal #4**).

**Estimated Cost (in addition to the short term cost) - \$230,000.** This does not include right-of-way, utility relocation, environmental mitigation, earthwork/grading, and sidewalk costs.

### 3.3.19 CR 93 and Montfort Road

#### Short Term Improvement Strategy

**Description (see Figure 3.25):**

1. Install a stop bar on Montfort Road.

Note: This improvement should be incorporated into the Dutchess County Department of Public Works' planned safety improvement project.

#### **Benefits**

- ✓ A stop bar improves safety by encouraging drivers to stop at a location where maximum intersection sight distance is achieved (**Goal #3**).

**Estimated Cost - \$100.** This does not require additional right-of-way.

#### Long Term Improvement Strategy

**Description (see Figure 3.26):**

**Short Term Improvement, plus:**

1. Continue the sidewalk on the south side of CR 93.

2. Provide a crosswalk on the south side of the intersection.

**Benefits**

- ✓ The provision of sidewalks and crosswalks enhances pedestrian connectivity and safety along the corridor (**Goal #4**).

**Estimated Cost (in addition to the short term cost) – \$700.** This does not include sidewalk costs.

**3.3.20 CR 93 and Route 376/Business Driveway**

Short Term Improvement Strategy

**Description (see Figure 3.27):**

1. Provide a left turn pocket on Route 376 in the northbound direction.
2. Provide a right turn pocket on CR 93.
3. Repaint the faded stop bar on CR 93.
4. Install a stop bar on the business driveway.

**Benefits**

- ✓ A left turn pocket on Route 376 allows through and right-turning traffic to bypass left-turning traffic, reducing vehicle queuing (**Goal #2**).
- ✓ A right turn pocket on CR 93 allows right-turning traffic to bypass left-turning and through traffic, thereby reducing vehicle queuing (**Goal #2**).
- ✓ Turn pockets improve safety by reducing the likelihood of rear-end and angle crashes associated with turning vehicles on Route 376 and CR 93 (**Goal #3**).
- ✓ A stop bar improves safety by encouraging drivers to stop at a location where maximum intersection sight distance is achieved (**Goal #3**).

**Estimated Cost - \$100,000.** This does not include utility relocation and earthwork/grading costs. It is anticipated that the improvement could be constructed within the existing right-of-way.

Long Term Improvement Strategy

**Description (see Figure 3.28):**

**Short Term Improvement, plus:**

1. End the sidewalk on the south side of CR 93. This sidewalk should be extended in the future along the southwest side of Route 376 to connect with the Dutchess Rail Trail. This will require widening the bridge across Sprout Creek on Route 376 to incorporate a sidewalk and adequate shoulders. The bridge should be improved when it is replaced or rehabilitated by NYSDOT.

**Benefits:**

- ✓ The provision of sidewalks enhances pedestrian connectivity and safety along the corridor and provides a future connection to the Dutchess Rail Trail (**Goal #4**).

**Estimated Cost (in addition to the short term cost) – \$700.** This does not include sidewalk costs.

**3.3.21 Bicycle Improvement Strategies**

The Town of Wappinger’s *Comprehensive Plan* (adopted September 27, 2010) recommends that “Old Hopewell Road, Myers Corners Road, Route 376, and the portions of New Hackensack and Widmer Roads near Route 9 should be considered as future corridors for bike paths and/or bike lanes.” The feasibility of off- and on-road bicycle facilities on CR 93 was investigated.

An on-road **bike lane or wide shoulder** was considered for the corridor. On-road bike lanes or wide shoulders are one-way facilities carrying bicyclists in the same direction as motor vehicles. A minimum width of 4 feet is desired on roadways with no curb and gutter. Bike lanes and shoulders should be free of debris and snow for bicyclists to ride comfortably. Drainage grates, utility covers, and other obstacles in the bike lane or shoulder create potentially hazardous situations. Therefore, bike lanes or shoulders may require additional width (beyond the 4 foot minimum) to allow safe travel for bicyclists. A wider lane or shoulder is also recommended if there is a high percentage of large vehicles, such as trucks and buses.

An off-road **shared-use path** was also considered along the corridor. A shared-use path would accommodate bicyclists and pedestrians together. The minimum pathway width would be 10 feet. This would require less right-of-way than a dedicated bike lane plus a sidewalk. However, shared use paths pose safety issues such as passing slower users in the same direction and accommodating two-way traffic, particularly where there is a high volume of pathway users. Shared use paths running parallel and immediately adjacent to a roadway are referred to as side paths and present additional safety issues at driveways and intersection crossings. Motorists do not expect bicyclists traveling in the opposite direction as roadway traffic, which increases the potential for conflicts between bicyclists traveling straight and motorists turning right or left at driveways and intersections. An off-road path would require right-of-way acquisition, utility relocation, grading and earthwork, and possibly environmental mitigation.

Based on this analysis and due to the limited right-of-way and relatively low bicycle volumes in the corridor, five foot paved shoulders were determined to be the most appropriate facility for bicyclists.

**Description:**

The long term strategies include a 5 foot shoulder on both sides of CR 93 between Route 9D and Route 376. A 5 foot shoulder provides space for bicyclists to ride further from vehicles, particularly school buses and trucks, and avoid other obstacles.

**Benefits**

- ✓ Five foot shoulders provide a safer environment for bicyclists to ride along the corridor (**Goal #’s 3 and 4**).
- ✓ The provision of five foot shoulders improves bicycle access to the Dutchess Rail Trail (**Goal #4**).

**Estimated Cost - \$1,450,000.** This cost is for shoulder widening along CR 93 (where required) to provide a continuous 5 foot shoulder on each side. It does not include right-of-way, utility relocation, environmental mitigation, and earthwork/grading costs.

#### Future Projects

1. **Connection over Lake Oniad Stream** – Replacement of the existing culvert over the Lake Oniad Stream should include adequate shoulders for bicyclists to continue east of Kent Road.
2. **Connection to the Dutchess Rail Trail** – The proposed shoulder improvements would end at Route 376. A connection to the Dutchess Rail Trail (which crosses Route 376 east of CR 93) will require adequate shoulders on Route 376, as well as replacement or rehabilitation of an existing bridge over Sprout Creek on Route 376 to incorporate shoulders on the bridge. NYSDOT should pursue these improvements as a part of any future work on Route 376 and the bridge.

#### 3.3.22 Pedestrian Improvement Strategies

Pedestrian connectivity, particularly access to the schools in the corridor, was identified as a key issue by residents and School District officials at meetings for the study. Sidewalks and crosswalks are proposed to enable students to walk to school, thereby minimizing the need for school buses and drop-off/pick-up by parents. Sidewalks and crosswalks along the corridor will also enable residents to walk to destinations such as the Town Hall, churches, businesses on Route 9, and other commercial areas. The proposed sidewalks and crosswalks will improve safety for pedestrians and could reduce traffic by enabling people to walk rather than drive for local trips.

##### Description:

The long term strategies include a continuous five foot sidewalk on one side of CR 93: on the north side between Route 9D and the Ketcham High School driveway, and on the south side between the high school driveway and Route 376. Crosswalks are shown at multiple locations to allow pedestrians to cross CR 93 or the side street and connect to residential or commercial areas. A five foot grass strip or landscaped buffer is recommended to separate pedestrians from vehicular traffic and to provide room for snow storage.

##### Benefits

- ✓ Sidewalks and crosswalks provide a safer environment for people to walk along the corridor (**Goal #3**).
- ✓ A continuous sidewalk system encourages walking instead of driving for short trips (**Goal #2**).
- ✓ A five-foot buffer further separates pedestrians from vehicular traffic (**Goal #3**).

##### Estimated Cost -

**CR 93: \$4,450,000.** This cost is for a 5 foot sidewalk and 5 foot grass strip on one side of CR 93 for its entire length. It does not include right-of-way, utility relocation, environmental mitigation, and earthwork/grading costs.

**Route 9D: \$180,000.** This cost is for a 5 foot sidewalk and 5 foot grass strip on 9D for the limits shown in Figure 3.2. It does not include right-of-way, utility relocation, environmental mitigation, and earthwork/grading costs.

#### Future Projects -

1. **Connection over Lake Oniad Stream** – Replacement of the existing culvert over the Lake Oniad Stream will allow the proposed sidewalk to continue east of Kent Road on the south side of CR 93.
2. **Connection to the Dutchess Rail Trail** – The proposed sidewalk would end at Route 376. A connection to the Dutchess Rail Trail (which crosses Route 376 east of CR 93) will require a sidewalk on Route 376, as well as replacement or rehabilitation of an existing bridge over Sprout Creek on Route 376 to incorporate a sidewalk on the bridge. NYSDOT should pursue these improvements as a part of any future work on Route 376 and the bridge.

#### 3.3.23 Transit Improvement Strategies

##### Description:

Transit ridership levels in the corridor are currently low, due to the limited service available. In addition, there are no dedicated bus stops or shelters in the CR 93 corridor. Service requires flagging down a bus along a particular route. To increase the feasibility of transit as a travel option in the corridor, the following strategies should be investigated:

1. **Improve existing service** – Service on LOOP Routes A (on Route 9) and B (on Route 9D) should be made more frequent to better serve the study area. Off-peak service should also be increased to reduce automobile use for shopping and non-work related trips. Provision of dedicated bus stops or shelters on CR 93 could also encourage transit use.
2. **New Fixed Route** – A fixed route on CR 93 should be considered to serve residential neighborhoods, schools, the Wappinger Plaza, and employment centers such as Laerdal. This new route could attract riders in the corridor and complement or expand on LOOP's existing New Hamburg RailLink service (on Route 9, CR 93 and CR 94).
3. **Connection to Wappinger Plaza** – Re-direct LOOP Routes A, B, and the New Hamburg RailLink into the Wappinger Plaza to drop off and pick up passengers including workers and local shoppers.
4. **Connection to Laerdal Property** – Re-direct the LOOP New Hamburg RailLink into the Laerdal property during commuter peak periods to serve local commuters.
5. **Promote Paratransit Services** – Enhance and increase awareness of LOOP's existing ADA paratransit, Dial-A-ride, and Flex Service.

##### Benefits

- ✓ Transit improvements would create an alternative option to driving in the corridor (**Goal #4**).
- ✓ Future shifts to transit would reduce congestion in the corridor (**Goal #2**).

**Estimated Cost -** Costs are unknown at this time.

### **3.3.24 Travel Demand Management Strategies**

**Description:**

Travel Demand Management (TDM) refers to strategies and policies to reduce travel by single-occupant vehicles, or to redistribute these trips to less congested routes or times. TDM strategies could reduce single occupant vehicle trips to work, school, shopping, and other activities in the study area. In addition to transit improvements to better serve work, shopping, and school-related travel and the provision of shoulders, sidewalks, and crosswalks for walking and bicycling, carpooling and vanpooling could be promoted through ride-matching assistance from 511NY Rideshare (formerly MetroPool).

The Town and County should also discuss regional strategies such as parking management, financial incentives, flextime, and alternative work schedules with large employers, educational institutions, and shopping centers so that employees and students can take advantage of the options and services available.

**Benefits**

- ✓ Promoting transit, carpooling, vanpooling, bicycling, and walking with the help of employers, schools, and shopping centers within the corridor helps reduce single occupant vehicles, thereby reducing congestion (**Goal #2**).
- ✓ Promoting transit, carpooling, vanpooling, bicycling, and walking supports alternatives to driving (**Goal #4**).
- ✓ Targeting large employers, educational institutions, and large shopping centers to encourage use of regional strategies helps manage congestion (**Goal #2**).

**Estimated Cost** - Costs are unknown at this time.

## 4 IMPLEMENTATION

### 4.1 Phasing of Improvement Strategies

This section describes the phasing of the short term (within 10 years) and long term (over 10 years) improvement strategies identified in Chapter 3.

#### Short Term Improvement Strategies

Many of the short term improvement strategies could be completed within five years while others may require a longer timeframe. The following types of improvements could be **completed within 5 years**:

- **Land use and zoning strategies**
  - Preserve Meadowbrook Farm and open space and agricultural portions of the Reese property.
  - Amend Comprehensive Plan and Town Zoning Law to incorporate land use and zoning strategies.
  - Incorporate *Greenway Connections* principles into Town Zoning Law.
  - Implement access management strategies along CR 93 - at Blackthorn Loop West and Laerdal Drive West.
- **Stop bar improvements** – Install new stop bars or re-paint stop bars.
- **Turn pockets** – Provide turn pockets where existing pavement can be re-stripped for a turn pocket or an existing turn pocket can be extended.
- **Traffic signal upgrades** – Adjust signal phasing and timing. Minor signal upgrades such replacement of lenses on signal heads and vehicle detection can be undertaken.
- **Pavement condition** - Re-surface pavement.
- **Right-in/right-out treatments** – Convert driveways to right-in/right-out where new roadway connections are not required.
- **Signage** – Install school signs, “No Turn on Red” signs, and lane use signs.
- **Shoulder improvements** – Widen shoulders (where additional right-of-way is not required). A planned DCDPW project incorporates shoulder improvements between CR 94 and Route 376.
- **Transit improvements**
  - Re-direct LOOP Routes A, B, and the New Hamburg RailLink into the Wappinger Plaza to drop off and pick up passengers including workers and local shoppers.
  - Re-direct the LOOP New Hamburg RailLink into the Laerdal property during commuter peak periods to serve local commuters.

The following types of improvements **may take 5 to 10 years** based on coordination between various agencies and property owners and the availability of funding:

- **Land use and zoning strategies**
  - Implement access management strategies along CR 93 at the Wappinger Plaza driveway and DeGarmo Hills Road.
- **Traffic signalization** – Install new traffic signals or upgrade existing signal equipment such as traffic controllers.
- **Minor roadway re-alignment** – Re-align roadway approaches to improve intersection sight distance (such as at Ervin Drive).
- **Turn pockets** – Provide turn pockets where pavement widening is necessary.
- **Right-in/right-out treatments** – Convert driveways to right-in/right-out only (in cases where new road connections are needed).
- **New roadway connections** – Construct an improved roadway connection between Wappinger Plaza and Marshall Road.
- **Transit improvements**
  - Increase frequency of service on LOOP Routes A (on Route 9) and B (on Route 9D) to better serve the study area. Off-peak service should also be increased to reduce automobile use for shopping and non-work related trips. Provide dedicated bus stops or shelters on CR 93 to encourage transit use.

#### Ongoing Strategies

These strategies could begin in the short term and continue on an ongoing basis. Some of these strategies are dependent on funding and private initiatives while others require support from various groups.

- **Land use and zoning strategies**
  - Pursue redevelopment opportunities at Wappinger Plaza and adjacent areas, on the Reese property, and along Route 9.
  - Implement *Greenway Connections* principles along the corridor.
  - Implement access management strategies along CR 93 as part of development and redevelopment projects.
- **Sidewalks** – Sidewalks could be initiated by the Town as part of development and site plan approvals. The Town could require sidewalk construction as part of each project or could collect funds to implement sidewalks at a later date.
- **Transit improvements** - Enhance and increase awareness of LOOP’s existing ADA Paratransit, Dial-A-Ride, and Flex Service.
- **Travel Demand Management strategies**
  - Promote use of transit, carpooling, vanpooling, bicycling, and walking with the help of employers, schools, and shopping areas within the corridor.
  - Target large employers, educational institutions, and large shopping centers to encourage parking management, financial incentives, flextime, on-site services, and other strategies.

## Long Term Improvement Strategies

The long term improvement strategies require significant coordination between agencies and with property owners. The availability of right of way and funding are key factors in advancing these projects. Other factors that should be considered are environmental mitigation and utility relocations. Based on these considerations, the following types of improvements **could take more than 10 years**:

- **Land use and zoning strategies**
  - Pursue redevelopment opportunities at Wappinger Plaza and adjacent areas, on the Reese property, and along Route 9.
  - Implement *Greenway Connections* principles along the corridor.
- **Roundabout** – While preliminary design could begin soon, detailed design and construction would take longer due to permitting and right of way acquisition.
- **Major roadway re-alignment** – Re-align roadways to consolidate intersections and promote access management (e.g. Ketcham High School driveway/ Blackthorn Loop East, Kent Road/Quaker Hill Road, CR 93/Randolph School driveway).
- **Traffic signalization** – Install new traffic signals associated with roadway re-alignment.
- **Sidewalks and crosswalks** – Sidewalks require a significant investment to construct and maintenance would require a commitment from property owners. Crosswalks, curb ramps, median islands, and other elements would be installed when the sidewalks are constructed.
- **Shoulder improvements** – Widen shoulders (where additional right-of-way is required).
- **Transit improvements** – Consider a fixed route on CR 93 to serve residential neighborhoods, schools, the Wappinger Plaza, and employment centers such as Laerdal. This new route could attract riders in the corridor and complement or expand on LOOP's existing New Hamburg RailLink service on Route 9, CR 93 and CR 94.
- **Route 9 Secondary Street** – Create a secondary street system parallel to Route 9.

## 4.2 Funding Mechanisms

### 4.2.1 Transportation Improvement Programs (TIP)

#### PDCTC Transportation Improvement Program<sup>3</sup>

The U.S. Department of Transportation requires every metropolitan area with a population of 50,000 or more to have a Metropolitan Planning Organization (MPO). MPOs are responsible for transportation planning, policy, and investment decision-making. The PDCTC is the MPO for the metropolitan area in Dutchess County.

MPOs are required by federal law to develop a Transportation Improvement Program (TIP) that lists transit, highway, bridge, bicycle, pedestrian, and other transportation projects within the Metropolitan Area that are proposed to receive federal funds. The PDCTC's TIP covers a five year period and is typically updated every two years.

<sup>3</sup> <http://www.dutchessny.gov/pdctc.htm>

The TIP update process follows four steps: 1) Estimate available resources; 2) Examine and endorse existing projects for which there were changes in cost or scope from previous commitments; 3) Review existing long-term projects regarding commitment, schedule and funding; 4) Solicit new projects, if funding is available.

#### Statewide Transportation Improvement Program<sup>4</sup>

The Statewide Transportation Improvement Program (STIP) is a list of all projects and project phases in New York State that are proposed to receive federal transportation funding. The STIP covers a four year period and is updated every two years. The STIP is a compilation of Transportation Improvement Programs (TIPs) developed and adopted by Metropolitan Planning Organizations (MPOs), projects identified and programmed by NYSDOT regions for the rural areas not within an MPO region, projects identified by NYSDOT Main Office for statewide needs, and NYSDOT regional projects funded by State funds. These lists are combined to become a single comprehensive list of all federally-funded highway and transit projects within the state. Amendments to the STIP are made by formal action. The online STIP is generally updated on a monthly basis.

#### 4.2.2 Federal and State Funds

The following federal and state funding sources could be used to implement some of the recommended transportation strategies. Additional information is available on the PDCTC website (see "Transportation Funding Opportunities").

#### Surface Transportation Program (STP)<sup>5</sup>

The STP program funds many of the projects on the TIP. STP funds can be used for projects on any Federal-aid roadway, bridge projects on any public road, transit capital projects, and intracity and intercity bus terminals and facilities. There are several sub-categories within the STP program, including STP Flex, STP Rural, STP Small Urban, STP Large Urban, STP Rail and STP Safety. The DCDPW project to improve horizontal alignment, sight distance, and other safety deficiencies on CR 93 between CR 94 and Route 376 is funded through the STP program (PIN# 875545).

#### State Dedicated Funds (SDF)<sup>6</sup>

State Dedicated Funds (SDF) provides funding for capital projects on State facilities. The NYSDOT Regional office identifies and programs the funding based on regional priorities. In the study area, this funding could be applied to projects on Route 9D, Route 9, and Route 376.

<sup>4</sup> <http://www.nysdot.gov/programs/stip>

<sup>5</sup> <http://www.fhwa.dot.gov/safetealu/summary.htm>

<sup>6</sup> <https://www.nysdot.gov/divisions/policy-and-strategy/public-transportation/funding-sources/SDF>

### Consolidated Local Street and Highway Improvement Program (CHIPS)<sup>7</sup>

CHIPS funding is allocated to municipalities based on their local highway inventory (mileage of local roads). NYSDOT reimburses the municipalities. In order to be eligible for CHIPS capital reimbursement, the project must: (1) be undertaken by a municipality; (2) be for highway-related purposes; and (3) have a service life of 10 years or more with normal maintenance. Eligible activities include highway resurfacing, highway reconstruction, traffic control devices (new signals or upgrades), and bridge/culvert rehabilitation and replacement. An example project could be the culvert replacement on CR 93 over Lake Oniad Stream.

### Highway Safety Improvement Program (HSIP)<sup>8</sup>

The purpose of the Highway Safety Improvement Program (HSIP) is to reduce traffic fatalities and serious injuries on public roads through the implementation of infrastructure-related safety improvements. NYSDOT receives HSIP funding and distributes it to projects based on an analysis of high-crash locations undertaken using the state's crash database. NYSDOT is responsible for selecting and allocating funds to various projects. Project types include:

- Intersection safety improvement
- Pavement and shoulder widening
- An improvement for pedestrian or bicyclist safety or for the safety of persons with disabilities
- Construction of a traffic calming feature
- Improvement of highway signage and pavement markings
- Installation of a traffic control or other warning device at a location with high crash potential
- Installation and maintenance of signs at pedestrian-bicycle crossings and in school zones.

HSIP projects could include turn pockets, pavement markings and striping, intersection sight distance improvements, and roundabouts.

### Congestion Mitigation and Air Quality Improvement Program (CMAQ)<sup>9</sup>

The CMAQ program provides funding to support transportation projects that reduce emissions in air quality non-attainment areas. Dutchess County is part of the Poughkeepsie Ozone Non-attainment Area, and therefore the PDCTC receives CMAQ funds. Eligible projects include traffic flow improvements (such as roundabouts), transit improvements, pedestrian and bicycle projects (such as new sidewalks), demand management programs and shared-ride services (such as carpool and vanpool programs), and inspection and maintenance programs for transportation infrastructure (such as traffic signal upgrades). A non-federal match of 20 percent is required.

### Transportation, Community, and System Preservation (TCSP) Program<sup>10</sup>

The Transportation, Community, and System Preservation (TCSP) Program provides funding to plan and implement projects that:

- Improve the efficiency of the transportation system.
- Reduce environmental impacts of transportation.
- Reduce the need for costly future public infrastructure investments.
- Ensure efficient access to jobs, services, and centers of trade.
- Examine community development patterns and identify strategies to encourage private sector development and investments that support these goals.

NYSDOT solicits for TCSP projects when funding is available. Funds must be obligated within three years, and a non-federal match of 20 percent is required. Example projects could include improving transit service, providing sidewalks and shoulders, or safety improvements such as turn pockets.

### Transportation Enhancements Program (TEP)<sup>11</sup>

TEP is a reimbursement program that provides funding for pedestrian and/or bicycle facilities, as well as scenic easements, landscaping, historic preservation, and other projects that expand transportation choices and enhance the transportation experience. Projects must have a municipal sponsor, a minimum total cost of \$200,000, and include a minimum 20 percent non federal match. Eligible costs include studies, design, construction, and right-of-way acquisition. Administrative and maintenance costs are not eligible. NYSDOT solicits for TEP projects when funding is available. An example project could be the widening of the bridge across Sprout Creek on Route 376 to incorporate a sidewalk which would connect with the Dutchess Rail Trail.

### Community Development Block Grants (CDBG)<sup>12</sup>

CDBG funds come from the U.S. Department of Housing and Urban Development and are administered by the Dutchess County Department of Planning and Development. Eligible activities include infrastructure improvements (such as sidewalk construction, road work, and drainage) in areas defined as low and moderate income. CDBG can fund construction and engineering work, but not engineering studies or administrative costs. CR 93 is not adjacent to an income-eligible area based on Census data, but the Town could conduct an income survey of the areas along CR 93 to determine if it is income eligible, apart from the census data.

### Safe Routes to School (SRTS)<sup>13</sup>

The goal of the Safe Routes to School program is to substantially improve the ability of primary and middle school students to walk and bicycle to school safely. SRTS reimburses costs for

<sup>10</sup> <http://www.fhwa.dot.gov/discretionary/tcsp2011info.htm>

<sup>11</sup> <https://www.nysdot.gov/programs/tep>

<sup>12</sup> <http://www.co.dutchess.ny.us/CountyGov/Departments/Planning/16690.htm>

<sup>13</sup> <https://www.nysdot.gov/divisions/operating/opdm/local-programs-bureau/srts>

<sup>7</sup> <https://www.nysdot.gov/programs/chips>

<sup>8</sup> <https://www.nysdot.gov/divisions/operating/osss/highway/improvement-program>

<sup>9</sup> <https://www.nysdot.gov/divisions/policy-and-strategy/public-transportation/funding-sources/cmaq>

engineering and infrastructure (such as sidewalks) as well as enforcement, education, and encouragement activities that support walking and bicycling to school. SRTS funds can be used for projects that will improve safety and reduce vehicular traffic, fuel consumption and air pollution within a two-mile vicinity of primary and middle schools (grades K-8).

In New York State, the program is managed by NYSDOT. NYSDOT will reimburse up to 100 percent of eligible project costs, which include planning, design, construction, outreach, education and enforcement. Right-of-way acquisition, relocation of utilities, and wetland remediation are not eligible costs. Applicants can be a county, municipality, public school district, individual school, or a non-profit organization. An example project could be sidewalks and crosswalks near Myers Corners Elementary or Wappingers Falls Junior High School.

#### **Federal Transit Administration Urbanized Area Formula Program (Section 5307)<sup>14</sup>**

FTA Section 5307 funds can be used for transit capital and some operating assistance and for transportation related planning. Eligible activities include planning, engineering, design and evaluation of transit projects, as well as capital investments in bus and bus-related activities. These funds are distributed by the PDCTC in coordination with the Orange County and Ulster County MPOs. These funds could be used to implement the transit related strategies.

#### **TIGER Grants**

Transportation Investment Generating Economic Recovery (TIGER) grants were initiated by the U.S. Department of Transportation as part of the American Recovery and Reinvestment Act of 2009 (ARRA). The program's objectives were to preserve and create jobs, promote economic recovery, invest in transportation infrastructure, and assist those most affected by the economic downturn. TIGER grants totaled \$1.5 billion and were awarded to 51 applicants. As a follow-up to the first program, the USDOT granted nearly \$600 million in the TIGER II program for major infrastructure projects ranging from highways and bridges to transit, rail and ports. A TIGER III program (also referred to as "national infrastructure investments") has been discussed, and could provide additional funds for large, shovel-ready infrastructure projects. In the past, the TIGER program has required a minimum project cost of \$10 million.

#### **4.2.3 Local Funds**

Local funds are often more flexible and require less reporting and administrative work than federal funds. The following local funding options could be used to implement some of the recommended transportation strategies.

#### **General Fund/Discretionary Funds**

Municipal general funds are often the most flexible funding source, but they are limited and must be allocated based on local priorities. At the beginning of a fiscal year or as part of a long-term capital improvement program, the Town could establish a budget line item for specific transportation projects.

<sup>14</sup> <https://www.nysdot.gov/divisions/policy-and-strategy/public-transportation/urban-programs/5307>

#### **Municipal Bonds**

Municipal bonds are issued by governmental agencies (the State, County or municipality) as a method of funding public investments. Essentially, an individual lends money to the agency, which promises to repay the principal plus interest. This allows government agencies to fund projects for which they do not have immediate funds at their disposal, such as building or updating schools, roads, and other public works projects. Municipal bonds are guaranteed by the government agency. As required by law, funds collected from the sale of the bond must be spent at one time on the intended capital project, or spent within three to five years from the time the bond is issued. Municipal bonds can be short or long-term based on the time of maturity. They could be tax-exempt depending on the intended use. The Town or County could issue bonds for a large transportation project or for a package of transportation improvements.

#### **Development Condition of Approval**

The Town could require developers to implement or provide funding for transportation improvements as a condition of approval for site plans and other Town approvals. Transportation projects such as turn pockets, traffic signals, sidewalks, signage and other infrastructure could be funded this way. These requirements could be imposed on new development as well as redevelopment projects adjacent to the corridor. For sidewalks, the Town could require developers to pay into a sidewalk fund. The money could be pooled and used to construct sidewalks and associated pedestrian improvements (crosswalks, signage) along the corridor.

#### **Transportation Improvement District**

The Town could create a transportation improvement district to fund transportation infrastructure or services within the district. The district could be defined as a portion of the corridor, the entire corridor, or a larger part of the Town. The district could fund multiple improvements or a specific project, such as sidewalks. It could also support transportation-related services, such as maintenance. Revenues would be generated by assessing and charging a fee on those properties that would benefit from the improvements. This approach would require support from residents and business owners.

#### **4.3 Funding and Implementation Responsibilities**

**Table 4.1** describes the responsibilities of public and private entities for funding and implementing the recommended land use and travel improvement strategies. The table designates a "Lead" and one or several "Assist" entities for funding and implementation. Those responsibilities are summarized below by entity.

#### 4.3.1 Town of Wappinger

The following is a list of responsibilities identified for the Town of Wappinger:

##### Funding

1. **Lead** effort to seek funds to construct sidewalks along CR 93.
2. **Assist** land trusts and conservation agencies in preserving Meadowbrook Farm and the open space and agricultural portions of the Reese property.
3. **Assist** effort to seek funds for planning, design, and construction of a secondary street parallel to Route 9.

##### Implementation

1. **Lead** effort to incorporate *Greenway Connections* principles along the corridor and into the Town Zoning Law.
2. **Lead** effort to amend the Comprehensive Plan and Town Zoning Law to consider access management strategies, pedestrian infrastructure improvements, and reduced parking requirements.
3. **Lead** effort to construct sidewalks and crosswalks along CR 93 and establish a mechanism for maintenance.<sup>15</sup>
4. **Assist** NYSDOT and DCDPW in implementing traffic improvements such as turn pockets, roadway re-alignments, traffic signalization and signal upgrades, roundabout, access management strategies, signage, and stop bar improvements.
5. **Assist** property owners in redeveloping the Wappinger Plaza and adjacent areas along Route 9, the Reese property, and other areas.
6. **Assist** property owners in implementing access management at the DeGarmo Hills Plaza and on commercial properties south of the intersection.
7. **Assist** Laerdal and other property owners in establishing sidewalks to connect to sidewalks along CR 93.
8. **Assist** NYSDOT, DCDPW, and others in creating a secondary street parallel to Route 9.

#### 4.3.2 Dutchess County Department of Public Works (DCDPW)

The following is a list of responsibilities identified for the Dutchess County Department of Public Works:

##### Funding

1. **Lead** funding for right-in/right out treatments (which can be completed within existing right of way), turn pockets (on non-State roads), the re-alignment of Ervin Drive, signal upgrades (timing/detection), stop bar improvements, signage, and crosswalks.
2. **Lead** effort to seek federal funding for projects including the CR 93/CR 94 roundabout, traffic signalization, pavement repair at the CR 93/Old Route 9 intersection, and construction of a new pedestrian walkway over the Lake Oniad Stream at Kent Road.
3. **Lead** effort to seek funds for access management improvements on CR 93 such as right-in/right-out treatments (which require additional right of way) and a raised median island near the Wappinger Plaza driveway.
4. **Assist** in seeking funds to construct sidewalks along CR 93.
5. **Assist** property owners in pursuing shared access, shared driveways, and new roadway connections within existing commercial and retail developments.
6. **Assist** Wappinger Central School District in identifying funding to re-align the Ketcham High School driveway and make other improvements at the intersection.
7. **Assist** effort to seek funds for planning, design, and construction of a secondary street parallel to Route 9.

##### Implementation

1. **Lead** effort to install or upgrade traffic signals and install turn pockets, stop bars, signage, and crosswalks (on non-State roads).
2. **Lead** design and construction of the CR 93/CR 94 roundabout, pavement repair near the CR 93/Old Route 9 intersection, a new pedestrian walkway over Lake Oniad Stream, re-alignment of Ervin Drive, and a secondary street parallel to Route 9.
3. **Lead** design and construction of access management improvements along CR 93, including right-in/right-out treatments and a raised median island on CR 93 near the Wappinger Plaza driveway, right-in/right-out treatments, shared access, and a shared driveway at the DeGarmo Hills Plaza, and shared access and new roadway connections within other commercial and retail developments.
4. **Assist** in the construction of sidewalks along CR 93.

<sup>15</sup> Note: Town Code Section 214 outlines the Town's current regulations for sidewalk maintenance.

5. **Assist** property owners in redeveloping the Wappinger Plaza and adjacent areas along Route 9, the Reese property, and other areas.
6. **Assist** developers in re-aligning Losee Road and making intersection improvements as part of new development on the north side of the intersection.
7. **Assist** developers in re-aligning Quaker Road and making intersection improvements as part of new development on the north side of the intersection.
8. **Assist** Wappinger Central School District in re-aligning the Ketcham High School driveway replacing the traffic signal at the intersection.
9. **Assist** the Randolph School in re-aligning the driveway opposite CR 93.

#### 4.3.3 New York State Department of Transportation (NYSDOT)

The following is a list of responsibilities identified for NYSDOT:

##### Funding

1. **Lead** funding for turn pockets, traffic signal upgrades, stop bars, signage, and crosswalks on State-owned and maintained roadways (Routes 9D, 9, and 376).
2. **Lead** effort to seek federal funds for constructing sidewalks along Route 9D and extending a sidewalk along Route 376 in the future.
3. **Lead** effort to seek funds for planning, design, and construction of a secondary street parallel to Route 9.

##### Implementation

1. **Lead** installation of turn pockets, traffic signal upgrades, stop bars, signage, and crosswalks on State-owned and maintained roadways (Route 9D, Route 9, and Route 376).
2. **Lead** construction of sidewalks along Route 9D and Route 376.
3. **Assist** the Town and DCDPW with installation of sidewalks on CR 93 near State Route intersections.
4. **Assist** DCDPW, the Town, and others in implementing a secondary street parallel to Route 9.
5. **Assist** the Randolph School in re-aligning their driveway opposite CR 93.

#### 4.3.4 Wappinger Central School District

The following is a list of responsibilities identified for the Wappinger Central School District:

##### Funding

1. **Lead** effort to seek funds to re-align the Ketcham High School driveway opposite Blackthorn Loop East.
2. **Lead** effort to seek funds for upgrading the traffic signal at the Ketcham High School driveway.
3. **Assist** DCDPW in seeking funds for improvements at the three school driveway intersections (Major MacDonald Way, Ketcham High School driveway, and Myers Corners Elementary School driveway).
4. **Assist** the Town and DCDPW in seeking funds for sidewalks adjacent to the three school driveway intersections.

##### Implementation

1. **Lead** design and construction to re-align the Ketcham High School driveway opposite Blackthorn Loop East.
2. **Lead** effort to upgrade the traffic signal at the Ketcham High School driveway.
3. **Lead** effort to pursue an agreement with DCDPW for maintenance and operation of the traffic signal at the Ketcham High School driveway.
4. **Assist** DCDPW in implementing improvements at the three school driveway intersections (Major MacDonald Way, Ketcham High School driveway, and Myers Corners Elementary School driveway).
5. **Assist** the Town and DCDPW in installing sidewalks and crosswalks adjacent to the three school driveway intersections.

#### 4.3.5 Other Property Owners

The following is a list of responsibilities for property owners in the CR 93 corridor. Specific property owners are identified in parentheses where applicable.

##### Funding

1. **Lead** effort to seek funds to re-align the Randolph School driveway opposite CR 93 (Randolph School).
2. **Lead** effort to seek funding to preserve Meadowbrook Farm and the open space and agricultural portions of the Reese property (Land trusts and conservation agencies).
3. **Lead** funding for the redevelopment of the Wappinger Plaza and adjacent areas along Route 9, the Reese property, and other areas (Wappinger Plaza, the Reese property, and others).

4. **Lead** funding for access management improvements on private property, such as cross-parcel access and internal roadway connections (Wappinger Plaza/ Mobil gas station, DeGarmo Hills Plaza/Gulf gas station, Laerdal property).
5. **Lead** funding for roadway, intersection, and sidewalk improvements as part of new development (e.g. at Losee Road, Quaker Road/Kent Road, etc.)
6. **Lead** funding to upgrade traffic signal (detection/timing) at the CR 93/Laerdal Drive East intersection (Laerdal property).
7. **Lead** funding to establish a new sidewalk system within the Laerdal property to connect with sidewalks on CR 93 (Laerdal property).
8. **Assist** DCDPW and the Town in funding access management strategies at intersections, including right-in/right-out treatments and shared driveways (Wappinger Plaza/ Mobil gas station, DeGarmo Hills Plaza/Gulf gas station, Laerdal property).
9. **Assist** the Town in funding a sidewalk system along CR 93 (Riverbend II, Cranberry Hills, DeGarmo Hills Plaza/Gulf gas station, Laerdal property, and other new property owners).
10. **Assist** DCDPW, the Town, and NYSDOT in funding the Route 9 secondary street system.
8. **Lead** implementation of a new sidewalk system within the Laerdal property to connect with sidewalks on CR 93 (Laerdal property).
9. Laerdal could **lead** an effort to pursue an agreement with DCDPW for maintenance and operation of the traffic signal at the Laerdal driveway.
10. **Assist** DCDPW and the Town in the design and construction of access management strategies at intersections, including right-in/right-out treatments and shared driveways (Wappinger Plaza/ Mobil gas station, DeGarmo Hills Plaza/Gulf gas station, Laerdal, and other property owners).
11. **Assist** the Town in implementing a sidewalk system along CR 93 (Riverbend II, Cranberry Hills, DeGarmo Hills Plaza/Gulf gas station, Laerdal property, and other new property owners).
12. **Assist** DCDPW, the Town, and NYSDOT in implementing a secondary street parallel to Route 9.

#### 4.4 Issues for Further Analysis

##### 4.4.1 Roundabout at CR 94

The proposed roundabout at the CR 93 and CR 94 intersection should be further studied by the Dutchess County Department of Public Works to refine the design and determine the project phasing. The roundabout could potentially be constructed in stages: first as a single lane roundabout, and later expanded to a two lane roundabout if needed.

##### 4.4.2 Route 9 Secondary Street

A detailed evaluation of the proposed Route 9 secondary street should be undertaken. The analysis would include a traffic study, environmental studies, preliminary design, right of way needs and engineering analysis to determine its feasibility. Cost estimates should also be developed. Funding for design, construction, and maintenance would need to be identified. The project would require close coordination between the Town, Village of Wappingers Falls, NYSDOT and the County. Those entities would need to determine responsibilities for all aspects of the project, as well as ownership and maintenance of the roadway.

#### Implementation

1. **Lead** design and construction to re-align the Randolph School driveway opposite CR 93 (Randolph School).
2. **Lead** effort to preserve Meadowbrook Farm and the open space and agricultural portions of the Reese property.
3. **Lead** redevelopment of the Wappinger Plaza and adjacent areas along Route 9, the Reese property, and other areas (Wappinger Plaza, the Reese property, and others).
4. **Lead** effort to implement access management improvements on private property, such as cross-parcel access and internal roadway connections (Wappinger Plaza/ Mobil gas station, DeGarmo Hills Plaza/Gulf gas station, Laerdal, and other property owners).
5. **Lead** roadway and intersection improvements as part of new development (e.g. at Losee Road, Quaker Road/Kent Road, etc.)
6. **Lead** sidewalk maintenance, based on the mechanism adopted by the Town (all property owners).
7. **Lead** traffic signal upgrade (detection/timing) at the CR 93/Laerdal Drive East intersection (Laerdal property owner).

**Table 4.1  
CR 93 Corridor Management Plan Implementation Matrix**

Strategies	Potential Funding Source					Implementation Entity				Timeframe		Figure number
	NYSDOT	Federal Transportation Funding/ TIP	Dutchess County Public Works	Town of Wappinger	Property Owner / Business Owners/ Others	NYSDOT	Dutchess County Public Works	Town of Wappinger	Property Owner / Business Owners/ Others	Short Term (0-10 years)	Long Term (> 10 years)	
<b>Land Use and Zoning Strategies</b>												
Preserve Meadowbrook Farm and open space and agricultural portions of the Reese property				<input type="checkbox"/>	■ <sup>(1)</sup>			<input type="checkbox"/>	■ <sup>(1)</sup>	✓		2.1
Pursue redevelopment opportunities at Hannaford Plaza and adjacent areas, on the Reese property, and along Route 9					■		<input type="checkbox"/>	<input type="checkbox"/>	■		✓	2.1
Implement access management strategies along CR 93		■	<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	■	✓	✓	
Incorporate <i>Greenway Connections</i> principles along corridor and into Town Zoning Law								■		✓		
Amend Comp Plan and Town Zoning Law to consider access management strategies								■		✓		
Amend Comp Plan and Town Zoning Law to consider sidewalks and other pedestrian infrastructure in all site plans								■		✓		
Amend Town Zoning Law to specify maximum, reduced minimum, and shared parking requirements								■		✓		
<b>Travel Improvement Strategies</b>												
<b>CR 93 and Route 9D</b>												
Turn pockets on Route 9D	■	<input type="checkbox"/>				■		<input type="checkbox"/>		✓		3.1
Left turn pocket on CR 93		<input type="checkbox"/>	■				■	<input type="checkbox"/>		✓		3.1
Traffic signal upgrades - phasing and timing	■	<input type="checkbox"/>				■		<input type="checkbox"/>		✓	✓	3.1/3.2
Signage on Route 9D ("No Turn on red", school)	■					■		<input type="checkbox"/>		✓		3.1
Randolph School driveway improvements					■ <sup>(2)</sup>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	■ <sup>(2)</sup>		✓	3.2
Sidewalks and crosswalks across Route 9D	<input type="checkbox"/>	■				■	<input type="checkbox"/>	<input type="checkbox"/>			✓	3.2
Sidewalk on CR 93		■	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	■			✓	3.2
<b>CR 93 and Major MacDonald Way</b>												
Right turn pocket on CR 93		<input type="checkbox"/>	■		<input type="checkbox"/> <sup>(3)</sup>		■		<input type="checkbox"/> <sup>(3)</sup>	✓		3.3
Stop bar improvements (Major MacDonald Way, Town Hall driveway)			■		<input type="checkbox"/> <sup>(3)</sup>		■	<input type="checkbox"/>	<input type="checkbox"/> <sup>(3)</sup>	✓		3.3
Sidewalk on CR 93		■	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	■	<input type="checkbox"/> <sup>(3)</sup>		✓	3.4
Crosswalk across CR 93 and Major MacDonald Way		■	<input type="checkbox"/>	<input type="checkbox"/>			■	<input type="checkbox"/>	<input type="checkbox"/> <sup>(3)</sup>		✓	3.4
Signage on CR 93 (pedestrian crossing)			■				■				✓	3.4
<b>CR 93 and Old Route 9</b>												
Left turn pocket on Old Route 9		<input type="checkbox"/>	■				■	<input type="checkbox"/>		✓		3.5
Traffic signal upgrades - actuated operation, phasing, and timing		<input type="checkbox"/>	■				■	<input type="checkbox"/>		✓		3.5
Improve pavement condition		■	<input type="checkbox"/>				■	<input type="checkbox"/>		✓		3.5
Sidewalk on CR 93		■	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	■			✓	3.6
Crosswalk across CR 93 and Old Route 9		■	<input type="checkbox"/>	<input type="checkbox"/>			■	<input type="checkbox"/>			✓	3.6
<b>CR 93 and Route 9</b>												
Stop bar improvements (Route 9)	■					■				✓		3.7
Traffic signal upgrades - phasing and timing	■	<input type="checkbox"/>				■				✓		3.7
Lane use signage on Route 9	■					■				✓		3.7
Sidewalk on CR 93		■	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	■			✓	3.8
Crosswalk across Route 9	<input type="checkbox"/>	■				■	<input type="checkbox"/>	<input type="checkbox"/>			✓	3.8
Route 9 Secondary Street System	<input type="checkbox"/>	■	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> <sup>(4,5)</sup>	<input type="checkbox"/>	■	<input type="checkbox"/>	<input type="checkbox"/> <sup>(4,5)</sup>		✓	3.9

<b>LEGEND</b>			
■	LEAD	<input type="checkbox"/>	ASSIST
<b>NOTES</b>			
1	Land trusts and conservation agencies	7	Mobil Gas Station
2	Randolph School	8	Riverbend II development
3	Wappinger Central School District	9	Cranberry Hills development
4	Village of Wappinger Falls	10	Laerdal property
5	Abutting property owners	11	DeGarmo Hills Plaza and gas station
6	Wappinger Plaza	12	Commercial properties

**Table 4.1  
CR 93 Corridor Management Plan Implementation Matrix**

Strategies	Potential Funding Source					Implementation Entity				Timeframe		Figure number
	NYSDOT	Federal Transportation Funding/ TIP	Dutchess County Public Works	Town of Wappinger	Property Owner / Business Owners/ Others	NYSDOT	Dutchess County Public Works	Town of Wappinger	Property Owner / Business Owners/ Others	Short Term (0-10 years)	Long Term (> 10 years)	
<b>CR 93 and Wappinger Plaza Driveway</b>												
Right-in/right out treatments (Mobil, Wappinger Plaza driveway)		<input type="checkbox"/>	<input checked="" type="checkbox"/>		<input type="checkbox"/> <sup>(6,7)</sup>		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> <sup>(6,7)</sup>	<input checked="" type="checkbox"/>		3.7
Stop bar improvement (Wappinger Plaza driveway)			<input checked="" type="checkbox"/>		<input type="checkbox"/> <sup>(6)</sup>		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> <sup>(6)</sup>	<input checked="" type="checkbox"/>		3.7
Improve connection to Marshall Road			<input type="checkbox"/>		<input checked="" type="checkbox"/> <sup>(6)</sup>		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> <sup>(6)</sup>	<input checked="" type="checkbox"/>		3.7
Shared access between Wappinger Plaza and Mobil gas station			<input type="checkbox"/>		<input checked="" type="checkbox"/> <sup>(6,7)</sup>		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> <sup>(6,7)</sup>		<input checked="" type="checkbox"/>	3.8
Raised median island on CR 93		<input type="checkbox"/>	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>	<input type="checkbox"/>			<input checked="" type="checkbox"/>	3.8
Sidewalk on CR 93		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	3.8
Crosswalk across side streets (Mobil gas station, Wappinger Plaza driveway)		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			<input checked="" type="checkbox"/>	<input type="checkbox"/>			<input checked="" type="checkbox"/>	3.8
<b>CR 93 and Marshall Road</b>												
Traffic signal upgrade - timing		<input type="checkbox"/>	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>		3.10
Extend left turn pocket on CR 93		<input type="checkbox"/>	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>		3.10
Sidewalk on CR 93		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> <sup>(4)</sup>		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/> <sup>(4)</sup>		<input checked="" type="checkbox"/>	3.11
Crosswalk across Marshall Road		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> <sup>(4)</sup>		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> <sup>(4)</sup>		<input checked="" type="checkbox"/>	3.11
<b>CR 93 and Losee Road</b>												
Right turn pocket on CR 93		<input type="checkbox"/>	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>	<input type="checkbox"/>		<input checked="" type="checkbox"/>		3.10
Left turn pocket on Losee Road		<input type="checkbox"/>	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>	<input type="checkbox"/>		<input checked="" type="checkbox"/>		3.10
Construct Riverbend II driveway and re-align Losee Road opposite this driveway					<input checked="" type="checkbox"/> <sup>(8)</sup>		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> <sup>(8)</sup>	<input checked="" type="checkbox"/>		3.10
Stop bar improvement (Losee Road)					<input checked="" type="checkbox"/> <sup>(8)</sup>		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> <sup>(8)</sup>	<input checked="" type="checkbox"/>		3.10
Traffic signalization					<input checked="" type="checkbox"/> <sup>(8)</sup>		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> <sup>(8)</sup>		<input checked="" type="checkbox"/>	3.11
Sidewalk on CR 93		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> <sup>(4,8)</sup>		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/> <sup>(4,8)</sup>		<input checked="" type="checkbox"/>	3.11
Crosswalks across CR 93 and Riverbend II driveway		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> <sup>(4,8)</sup>		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> <sup>(4,8)</sup>		<input checked="" type="checkbox"/>	3.11
<b>CR 93 and Robert Lane</b>												
Stop bar improvement (Robert Lane)			<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>	<input type="checkbox"/>		<input checked="" type="checkbox"/>		3.12
Sidewalk on CR 93		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	3.13
Crosswalk across Robert Lane		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			<input checked="" type="checkbox"/>	<input type="checkbox"/>			<input checked="" type="checkbox"/>	3.13
<b>CR 93 and Spook Hill Road</b>												
Left turn pocket on CR 93		<input type="checkbox"/>	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>		3.12
Left turn pocket on Spook Hill Road		<input type="checkbox"/>	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>	<input type="checkbox"/>		<input checked="" type="checkbox"/>		3.12
Traffic signalization		<input type="checkbox"/>	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>		3.12
Stop bar improvements (CR 93, Spook Hill Road)			<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>	<input type="checkbox"/>		<input checked="" type="checkbox"/>		3.12
Sidewalk on CR 93		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	3.13
Crosswalk across CR 93		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			<input checked="" type="checkbox"/>	<input type="checkbox"/>			<input checked="" type="checkbox"/>	3.13
<b>CR 93 and Blackthorn Loop West</b>												
Right-in/right out treatment (Blackthorn Loop West)		<input type="checkbox"/>	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>		3.12
Stop bar improvement (Blackthorn Loop West)			<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>	<input type="checkbox"/>		<input checked="" type="checkbox"/>		3.12
Sidewalk on CR 93		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	3.13
Crosswalk across CR 93		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			<input checked="" type="checkbox"/>	<input type="checkbox"/>			<input checked="" type="checkbox"/>	3.13
Signage on CR 93 (pedestrian crossing)			<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>	3.13
<b>CR 93 and Blackthorn Loop East</b>												
Stop bar improvement (Blackthorn Loop East)			<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>	<input type="checkbox"/>		<input checked="" type="checkbox"/>		3.14

<b>LEGEND</b>			
<input checked="" type="checkbox"/>	LEAD	<input type="checkbox"/>	ASSIST
<b>NOTES</b>			
1	Land trusts and conservation agencies	7	Mobil Gas Station
2	Randolph School	8	Riverbend II development
3	Wappinger Central School District	9	Cranberry Hills development
4	Village of Wappinger Falls	10	Laerdal property
5	Abutting property owners	11	DeGarmo Hills Plaza and gas station
6	Wappinger Plaza	12	Commercial properties

**Table 4.1  
CR 93 Corridor Management Plan Implementation Matrix**

Strategies	Potential Funding Source					Implementation Entity				Timeframe		Figure number
	NYS DOT	Federal Transportation Funding/ TIP	Dutchess County Public Works	Town of Wappinger	Property Owner / Business Owners/ Others	NYS DOT	Dutchess County Public Works	Town of Wappinger	Property Owner / Business Owners/ Others	Short Term (0-10 years)	Long Term (> 10 years)	
<b>CR 93 and Roy C. Ketcham High School Driveway</b>												
Traffic signal upgrade - signal heads, detection, timing		<input type="checkbox"/>	<input type="checkbox"/>		■ <sup>(3)</sup>		<input type="checkbox"/>		■ <sup>(3)</sup>	✓		3.14
Realign Roy C. Ketcham High School driveway opposite Blackthorn Loop East			<input type="checkbox"/>		■ <sup>(3)</sup>		<input type="checkbox"/>	<input type="checkbox"/>	■ <sup>(3)</sup>		✓	3.15
Traffic signalization		■	<input type="checkbox"/>		<input type="checkbox"/> <sup>(3)</sup>		■	<input type="checkbox"/>	<input type="checkbox"/> <sup>(3)</sup>		✓	3.15
Turn pockets on CR 93		■	<input type="checkbox"/>		<input type="checkbox"/> <sup>(3)</sup>		■	<input type="checkbox"/>	<input type="checkbox"/> <sup>(3)</sup>		✓	3.15
Stop bar and pavement markings (CR 93, Roy C. Ketcham High School, and Blackthorn Loop East)		■	<input type="checkbox"/>		<input type="checkbox"/> <sup>(3)</sup>		■	<input type="checkbox"/>	<input type="checkbox"/> <sup>(3)</sup>		✓	3.15
Signage ("No Turn on Red")		■	<input type="checkbox"/>		<input type="checkbox"/> <sup>(3)</sup>		■	<input type="checkbox"/>	<input type="checkbox"/> <sup>(3)</sup>		✓	3.15
Sidewalk on CR 93		■	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> <sup>(3)</sup>		<input type="checkbox"/>	■	<input type="checkbox"/> <sup>(3)</sup>		✓	3.15
Crosswalks across CR 93 and Roy C. Ketcham High School driveway		■	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> <sup>(3)</sup>		■	<input type="checkbox"/>	<input type="checkbox"/> <sup>(3)</sup>		✓	3.15
<b>CR 93 and Ervin Drive</b>												
Stop bar improvement (Ervin Drive)			■				■	<input type="checkbox"/>		✓		3.14
Re-align Ervin Drive approach to improve intersection sight distance			■				■	<input type="checkbox"/>		✓		3.14
Sidewalk on CR 93		■	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	■			✓	3.15
Crosswalk across Ervin Drive		■	<input type="checkbox"/>	<input type="checkbox"/>			■	<input type="checkbox"/>			✓	3.15
<b>CR 93 and Kent Road</b>												
Stop bar improvement (Kent Road)			■				■	<input type="checkbox"/>		✓		3.16
Realign Quaker Road opposite Kent Road					■ <sup>(9)</sup>		<input type="checkbox"/>	<input type="checkbox"/>	■ <sup>(9)</sup>		✓	3.17
Stop bar and pavement markings (CR 93, Kent Road, and Quaker Road)					■ <sup>(9)</sup>		<input type="checkbox"/>	<input type="checkbox"/>	■ <sup>(9)</sup>		✓	3.17
Turn pockets (CR 93, Quaker Road, and Kent Road)					■ <sup>(9)</sup>		<input type="checkbox"/>	<input type="checkbox"/>	■ <sup>(9)</sup>		✓	3.17
Traffic signalization					■ <sup>(9)</sup>		<input type="checkbox"/>	<input type="checkbox"/>	■ <sup>(9)</sup>		✓	3.17
Sidewalk on CR 93 and crosswalk across CR 93		■	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> <sup>(9)</sup>		<input type="checkbox"/>	■	<input type="checkbox"/> <sup>(9)</sup>		✓	3.17
Crosswalk across Kent Road		■	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> <sup>(9)</sup>		■	<input type="checkbox"/>	<input type="checkbox"/> <sup>(9)</sup>		✓	3.17
New pedestrian walkway over Lake Oniad Stream		<input type="checkbox"/>	■	<input type="checkbox"/>			■	<input type="checkbox"/>			✓	3.17
<b>CR 93 and Myers Corners Elementary School driveway</b>												
Left turn pocket on CR 93		<input type="checkbox"/>	■		<input type="checkbox"/> <sup>(3)</sup>		■		<input type="checkbox"/> <sup>(3)</sup>	✓		3.18
Stop bar improvement (MCES driveway)			■		<input type="checkbox"/> <sup>(3)</sup>		■	<input type="checkbox"/>	<input type="checkbox"/> <sup>(3)</sup>	✓		3.18
Sidewalk on CR 93		■	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> <sup>(3)</sup>		<input type="checkbox"/>	■	<input type="checkbox"/> <sup>(3)</sup>		✓	3.19
Crosswalk across MCES Driveway		■	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> <sup>(3)</sup>		■	<input type="checkbox"/>	<input type="checkbox"/> <sup>(3)</sup>		✓	3.19
<b>CR 93 and Laerdal Drive West</b>												
Right-in/right out treatment (Laerdal Drive West)			■		<input type="checkbox"/> <sup>(10)</sup>		■	<input type="checkbox"/>	<input type="checkbox"/> <sup>(10)</sup>	✓		3.18
Stop bar improvement (Laerdal Drive West)			■		<input type="checkbox"/> <sup>(10)</sup>		■	<input type="checkbox"/>	<input type="checkbox"/> <sup>(10)</sup>	✓		3.18
Sidewalk on CR 93		■	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> <sup>(10)</sup>		<input type="checkbox"/>	■	<input type="checkbox"/> <sup>(10)</sup>		✓	3.19
<b>CR 93 and Laerdal Drive East</b>												
Stop bar improvement (Laerdal Drive East)			■		<input type="checkbox"/> <sup>(10)</sup>		■	<input type="checkbox"/>	<input type="checkbox"/> <sup>(10)</sup>	✓		3.20
Traffic signal upgrade - detection, timing		<input type="checkbox"/>	<input type="checkbox"/>		■ <sup>(10)</sup>		<input type="checkbox"/>	<input type="checkbox"/>	■ <sup>(10)</sup>	✓		3.20
Sidewalk on CR 93		■	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> <sup>(10)</sup>		<input type="checkbox"/>	■	<input type="checkbox"/> <sup>(10)</sup>		✓	3.21
Crosswalk across CR 93		■	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> <sup>(10)</sup>		■	<input type="checkbox"/>	<input type="checkbox"/> <sup>(10)</sup>		✓	3.21
Sidewalks within the Laerdal property to connect with sidewalks on CR 93					■ <sup>(10)</sup>			<input type="checkbox"/>	■ <sup>(10)</sup>		✓	3.21
<b>CR 93 and CR 94</b>												
Roundabout		■	<input type="checkbox"/>				■	<input type="checkbox"/>			✓	3.22
Sidewalk on CR 93		■	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	■			✓	3.22
Crosswalk across CR 94 and pedestrian signage on CR 94		■	<input type="checkbox"/>	<input type="checkbox"/>			■	<input type="checkbox"/>			✓	3.22

LEGEND			
■	LEAD	<input type="checkbox"/>	ASSIST
NOTES			
1	Land trusts and conservation agencies	7	Mobil Gas Station
2	Randolph School	8	Riverbend II development
3	Wappinger Central School District	9	Cranberry Hills development
4	Village of Wappinger Falls	10	Laerdal property
5	Abutting property owners	11	DeGarmo Hills Plaza and gas station
6	Wappinger Plaza	12	Commercial properties

**Table 4.1  
CR 93 Corridor Management Plan Implementation Matrix**

Strategies	Potential Funding Source					Implementation Entity				Timeframe		Figure number
	NYS DOT	Federal Transportation Funding/ TIP	Dutchess County Public Works	Town of Wappinger	Property Owner / Business Owners / Others	NYS DOT	Dutchess County Public Works	Town of Wappinger	Property Owner / Business Owners / Others	Short Term (0-10 years)	Long Term (> 10 years)	
<b>CR 93 and DeGarmo Hills Road</b>												
Left turn pocket on CR 93		<input type="checkbox"/>	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>	<input type="checkbox"/>		<input checked="" type="checkbox"/>		3.23
Stop bar improvement (DeGarmo Hills Road)			<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>	<input type="checkbox"/>		<input checked="" type="checkbox"/>		3.23
Right-in/right out treatment (Gulf gas station, DeGarmo Hills Plaza)		<input type="checkbox"/>	<input checked="" type="checkbox"/>		<input type="checkbox"/> <sup>(11,12)</sup>		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> <sup>(11,12)</sup>		<input checked="" type="checkbox"/>	3.24
Cross parcel access between properties			<input type="checkbox"/>		<input checked="" type="checkbox"/> <sup>(11,12)</sup>		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> <sup>(11,12)</sup>		<input checked="" type="checkbox"/>	3.24
New shared driveway on south side opposite DeGarmo Hills Road			<input type="checkbox"/>		<input checked="" type="checkbox"/> <sup>(11)</sup>		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> <sup>(11)</sup>		<input checked="" type="checkbox"/>	3.24
Turn pockets on CR 93		<input type="checkbox"/>	<input checked="" type="checkbox"/>		<input type="checkbox"/> <sup>(11,12)</sup>		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> <sup>(11,12)</sup>		<input checked="" type="checkbox"/>	3.24
Traffic signalization		<input type="checkbox"/>	<input checked="" type="checkbox"/>		<input type="checkbox"/> <sup>(11,12)</sup>		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> <sup>(11,12)</sup>		<input checked="" type="checkbox"/>	3.24
Stop bar improvements (CR 93, DeGarmo Hills Road, new and configured driveways)		<input type="checkbox"/>	<input checked="" type="checkbox"/>		<input type="checkbox"/> <sup>(11,12)</sup>		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> <sup>(11,12)</sup>		<input checked="" type="checkbox"/>	3.24
Sidewalk on CR 93		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> <sup>(11,12)</sup>		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/> <sup>(11,12)</sup>		<input checked="" type="checkbox"/>	3.24
Crosswalks across CR 93 and new shared driveway		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> <sup>(11,12)</sup>		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> <sup>(11,12)</sup>		<input checked="" type="checkbox"/>	3.24
<b>CR 93 and Montfort Road</b>												
Stop bar improvement (Montfort Road)			<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>	<input type="checkbox"/>		<input checked="" type="checkbox"/>		3.25
Sidewalk on CR 93		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	3.26
Crosswalk across Montfort Road		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			<input checked="" type="checkbox"/>	<input type="checkbox"/>			<input checked="" type="checkbox"/>	3.26
<b>CR 93 and Route 376</b>												
Turn pocket on Route 376	<input checked="" type="checkbox"/>	<input type="checkbox"/>				<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>		3.27
Turn pocket on CR 93		<input type="checkbox"/>	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>		3.27
Stop bar improvement (CR 93, Business driveway)			<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>	<input type="checkbox"/>		<input checked="" type="checkbox"/>		3.27
Sidewalk on CR 93		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	3.28
Extend sidewalk in the future along Route 376 (requires bridge widening across Sprout Creek)	<input type="checkbox"/>	<input checked="" type="checkbox"/>		<input type="checkbox"/>		<input checked="" type="checkbox"/>		<input type="checkbox"/>			<input checked="" type="checkbox"/>	3.28

<b>LEGEND</b>			
<input checked="" type="checkbox"/>	LEAD	<input type="checkbox"/>	ASSIST
<b>NOTES</b>			
1	Land trusts and conservation agencies	7	Mobil Gas Station
2	Randolph School	8	Riverbend II development
3	Wappinger Central School District	9	Cranberry Hills development
4	Village of Wappinger Falls	10	Laerdal property
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6	Wappinger Plaza	12	Commercial properties

# Appendices

- A. Public Meetings
- B. Roundabout Materials



## A. PUBLIC MEETINGS

### A.1 Public Meeting #1 – November 18, 2009

#### Comments Made During Presentation

Questions and comments made during the presentation of existing conditions are listed below in bold. Responses from the project team are shown below each question.

**1. Why wasn't the proposed Adams Fairacre Farms considered as part of the study area? Why wasn't it included in the summary of pending commercial uses?**

The proposed Adams store (on the east side of Route 9, south of Old Hopewell Road) is south of our study area boundary. The summary of pending development included only projects within the study area. While the proposed store is outside of the study area, its impact on future traffic in the area will be included in the traffic modeling process.

**2. Both the Hi View Road and Brothers Road intersections should have been studied. These roads connect to high-volume roads and several developments. Also, why wasn't Henry Road Studied?**

The study intersections were selected based on higher-volume intersections and cross streets that serve key destinations along the corridor. Hi-View, Brothers, and Henry Road are lower-volume residential roads that are not expected to have much development in the future. Although the operations of these intersections were not specifically studied, all segments of the corridor were studied in terms of traffic volume, crash history, visibility, speeds, and other issues. In addition, the County's Public Works Department is currently working on a project to improve visibility between All Angels Hill Road and Route 376, which includes Hi-View Road and Brothers Road.

**3. The curve on CR 93 at Robert Lane is an issue that should be studied. There is limited sight distance going westbound.**

This will be studied.

**4. A study should be undertaken for Old Hopewell Road, especially near the gas station.**

This study was initiated due to a request from the Town to the County and the agreement of the Public Works Department and Poughkeepsie-Dutchess County Transportation Council (PDCTC) to pursue funding for it. The Town could make a similar request for a study of Old Hopewell Road.

**5. What comprises the crash types called "other", particularly on the DeGarmo Hills to Montfort segment (where "other" is 71% of the crashes)?**

The data for the DeGarmo Hills to Montfort segment shows that most of the 'other' crash types are with deer or other animals, followed by fixed objects and trees. At Route 376, the 'other' crash types are mainly deer, then signs or other barriers. At Spook Hill, 'other' crashes are also mainly deer, other vehicles, and trees.

#### Breakout Group Comments

For the breakout groups, the corridor was divided into three segments – Route 9D to Route 9, Route 9 to CR 94, and CR 94 to Route 376. Meeting participants were asked to join one of the groups to share concerns and provide input to the study team. Comments from each group are listed below.

#### Route 9D to Route 9

1. Repaving CR 93 will encourage drivers to speed and increase traffic because the road will be nicer, defeating the purpose of the study.
2. A traffic signal should be installed at the Junior High School entrance to improve safety, especially to help buses leaving the school. Someone's going to get hurt there. Kids run across the street to get to the school, which is very dangerous because there's a lot of speeding and distracted driving on Middlebush Road.
3. The speed limit should be lowered on CR 93.
4. The signals on Route 9 between the BJ's Plaza, CR 93, and north should be synchronized so that vehicles can make their turns at the same time, which would promote more free flow traffic. They do it in California, why can't we?
5. After the road is improved, the school district may attempt to expand the Junior High School and bus garage; they presented such a plan a few years ago.
6. The Wappinger Creek (located south of Town Hall) is rising; drainage is becoming an issue.
7. Will the work on CR 93 require the taking of property from property owners? Owners will lose their front yards.
8. Was the proposed Adams store included in the analysis?

**Route 9 to CR 94**

1. Ketcham High School– There are traffic problems in both directions. You can't get out of Kent Road. This is a safety issue. Also, you can't get out of Ervin Road.
2. There are backups on Myers Corners Road. You need to widen the road or add a turn lane.
3. Cranberry Hills future connection to Quaker Road with access to Myers Corners Road:
  - This is a concern for future traffic.
  - This will impact school enrollment.
  - The project should consider using the existing road and signal at Laerdal rather than Quaker Road.
4. Enforcement of speeds on Myers Corners Road is needed.
5. The area around Hannaford is very difficult.
  - To reduce the traffic and delay at the unsignalized exit from Hannaford's, there should be a more direct cut-through from the shopping center to the signal at Marshall Road (by the offices and self-storage).
  - There are significant road rage issues in this area.
  - The entry and exit at the Chase Bank on Route 9 are hard to understand.
6. The "Do not block entrance" sign at Ervin is located too far from the intersection and thus does not work.
7. Truck speeds are high in the morning.
8. Trucks travel along Myers Corners Road from Route 9 to Route 376 and the new shopping center.
9. The quarry is creating truck traffic.
10. Airport Drive is creating truck traffic to New Hackensack.
11. Blackthorn Loop (East) – Making a left on Saturday is difficult.
12. Spook Hill Road is a problematic intersection. It is difficult to get onto Myers Corners Road from Spook Hill Road.
13. In the morning and in the afternoon at Myers Corners Elementary, the hill (visibility) is an issue when vehicles are trying to exit the school property.
14. Is there a need for a blinking light at Myers Corners Elementary?

15. The signal timing should be changed at the intersections of CR 93 with All Angels (CR 94), Old Route 9, Laerdal and Ketcham High School. The Laerdal and Ketcham signals continue to operate until approximately 8PM - this is much too late, since the offices and school are closed much earlier.
16. The Masonic Lodge is expanding and will result in an increase in traffic.
17. Quality of life issue – it is dangerous to cross the road as a pedestrian, primarily because of high vehicle speeds.
18. Robert Lane – The curve by Ketcham is a concern with the high speed of through-traffic—it causes problems at this location. It is also the primary reason for rear-end crashes.
19. When making left turns, there is little room for others to pass on CR 93.
20. There is no pedestrian infrastructure in this corridor.
21. There are no bike trails/paths in this area. They are needed. The Rail Trail is important to the area.
22. High school seniors walk from the High School to Route 9 businesses for work. A sidewalk is definitely needed on the north side of Myers Corners Road. However, sidewalks are not necessarily needed on both sides of the road.
23. From Route 9 to CR 94, vacant land and the development potential is a serious concern.
24. Kent Road to Ervin Drive – Truck activity is an issue.
25. We need increased safety for walking, possibly, a raised sidewalk.
26. Sidewalks are needed along CR 93, especially so that students can walk to school. Parents pay a lot of money for bus service which would be better used to build sidewalks. Students who live close to school can't even walk to school and have to ride the bus way out of their way, which doesn't make sense.
27. The left turn at Kent Road is an issue.

**CR 94 to Route 376**

1. Dogwood Hill Road and Montfort Road have limited sight distance.
2. The number of driveway entrances along Dogwood Hill Road and Montfort Road is a problem. There is a lack of signals.
3. The intersection of DeGarmo Hills Road and CR 93 is a problem. It needs improved traffic control.

4. The traffic signal phase(s) at All Angels Hills Road is problematic. Too much time is allocated to turn left.
5. Most of the turns are difficult along CR 93 at peak hours; specifically at the intersection of CR 93 and Route 376.
6. The Hannaford segment is more congested.
7. The top of the hill on Route 376 coming to CR 93 has limited sight distance and visibility.
8. There is no shoulder in the vicinity of 227 Myers Corners Road (near DeGarmo Hills Road). Sight distance is very limited in this area. This creates safety issues.
9. It is hard to make turns on CR 93 in the vicinity of the fire house (near All Angels Hill Road).
10. Along Montfort Road people drive faster than the limit. This is an issue.
11. At the intersection of Montfort Road and CR 93 trees block the stop sign.
12. People are concerned that the roads will be widened. They don't want that.
13. Is it possible to restrict the truck traffic from Route 376 to All Angels Hills Road along CR 93? This section is more residential and should be kept that way. Some trucks cut through DeGarmo Hills Road to avoid traffic along CR 93.
14. At the intersection of Route 376 and CR 93, traffic usually backs up onto CR 93 at peak hours. It's the same at DeGarmo Hills Road. Even if there are four cars on DeGarmo Hills Road waiting at the intersection, the traffic backs up at the CR 93 intersection.
15. Montfort Road and CR 93 also back up and the sight distance is limited.
16. Making a right turn on Montfort Road is difficult. Making a left turn is ok.
17. People are mostly aware of the Cranberry Hills project. Some question the adequacy of the data on the number of school children for this project.
18. More development means more traffic. The infrastructure cannot handle it.
19. The issue is CR 93 being the primary commute route between Route 9 and Route 376.
20. People walk but there is no shoulder. Shoulders are important for people who walk. Otherwise there is no margin for error.
21. People are interested in bikeways and trails that are being proposed by the County in the vicinity of Route 376 (the Dutchess Rail Trail extension).

22. People do not obey the posted speed limit. Making roads wider is a bad idea.

23. There are drainage/erosion issues along CR 93.

24. It should be recognized that straightening out the road will increase speeds on CR 93, which are already high.

### Comment Forms

The following questions were asked on comment forms distributed at the meeting and via the website. Comments received are summarized under each question.

1. **Where are the common bottlenecks (where traffic backs up)? Are there turns that are particularly difficult? At what time of day? Are there any segments of the road that are more congested than others? Why do you think this occurs? Where are there safety issues due to visibility, speed, curves or other issues?**
  - Trying to turn left, west from Henry on to Myers Corners Road. Morning, School bus time and after school. The long light at Ketcham + Route 9.
  - Laerdal - Stupid light. Re-program. 6-8 cars backed up on CR 93. None at Laerdal. Roy C Ketcham - Light doesn't need to be on when school is not in session.
  - Curves between All Angels & 376. Excess speed by almost all motorists.
  - Myers Corners Elementary School in the AM.
  - Robert Lane – Cars coming from Route 9 and turning left. It is also dangerous for walkers as cars go around left turn vehicles in this location.
  - As a resident of the 9D-Old Route 9 corridor, I am concerned about the intersection of MacDonald Way and Middlebush Road (the Wappingers Junior High) – that intersection is a potential killer. It definitely needs a traffic light. Youngsters “race” across the road and walk along Middlebush Road daily and it is very, very dangerous.
  - Old Road Route 9 & Middlebush Road, Myers Corners Road to Middlebush to Old Route 9 at light. Potholes on side of roads.
  - Turning left out of Hannaford is mostly impossible. In the morning and evening (rush hours), it can take 5 minutes to be able to turn left onto Myers Corners Road from our road (Schnabl Ct). Myers also gets congested heading toward Route 9 at the Spook Hill left turn. Speed is a huge problem.
  - Driving toward Route 9 in the early AM there is a backup past Kent Road.
2. **Before this meeting were you aware of the potential for development in/around the corridor? How do you feel about this potential - is it positive or negative?**
  - Traffic is already heavy - potential is negative by my point.
  - NEGATIVE
  - Negative – Will drastically increase traffic. I was not aware of potential development.
  - Developing around this corridor with the total lack of land, water and traffic control is not the place to go. These are many areas that are better suited. The minimum improvement is to include Old Hopewell in the study (Adams Farm, etc).
  - I feel positive about development.

- No, I think it is totally negative.
- Cerebral Palsy proposal for the Masonic Lodge property. Main issues will be addressing drainage, runoff, and increase in traffic.

**3. What types of development would you like to see permitted and where (agricultural, residential (single or multi-family), office, retail...other)? Specific locations for particular uses?**

- None
- NONE - currently Myers Corners Rd is very well established.
- No more access on Myers Corners Rd. The number of schools should preclude any further increase in development for safety's sake alone.
- The Route 9 highway is saturated. Development should expand away from Route 9 and not adjacent to it. Old Hopewell, New Hackensack, Airport area are places that should be strongly considered. Also, how can any discussion concerning land use for business, retail, etc go forward without a plan to provide water to the area? Lots of parking lots with cars leaking gas.
- Agricultural and single family only.
- I would favor development of a dog park on undeveloped space.

**4. Where are there safety issues for walkers or bicyclists? Where do opportunities exist to increase pedestrian safety? Bicycle safety?**

- No place is safe place to walk or bike on Myers.
- Need walkway and bikeway.
- CR 93 from All Angels to 376, 93 from Old Route 9 to 9D.
- When a driver(s) crosses the white line to get around a car making a left turn.
- Sidewalks with guardrail separating it from the road.
- Obviously the traffic light at Wappinger Junior High. Sidewalks that were planned about 40 years ago. Adequate shoulders and markings. The sidewalks/shoulders are required along the entire CR 93 corridor.
- I don't feel we have any pedestrian safety or bicycle safety.
- The entire length of Myers Corners Road is unsafe for both. We do walk, but avoid it because it's scary. I never allowed my kids to bike on it because it's unsafe. We need sidewalks! And slower traffic!
- I would like to see sidewalks on one side of the road for its entire length.

**5. Did the data presented tonight seem about right? Was it consistent with your experience of the corridor?**

- Yes - but I use Henry to get on Myers and it's harder than Losee to get west.
- YES
- Yes, it was about right.
- Yes – very informative. Better law enforcement and adherence to red lights and speed limits would negate the need for a lot of changes.
- The data was consistent, however I felt that high risk intersections and roadway areas did not receive the necessary emphasis. I was waiting to hear someone say there is or there isn't traffic control at the high risk areas.

- Yes
- Yes, but I would have thought the average speeds were higher.

**6. Of the information presented, what surprised you? What raised questions for you?**

- LOOP Bus Service - I have never seen a bus on CR 93.
- I really thought the truck traffic numbers would be higher – I live in the second house in from Myers Corners Road and the trucks are constant. I really believe the numerous huge dump trucks use this corridor to circumvent Route 9 (Noise/Air Pollution).
- The information I thought was questionable concerned the amount of truck traffic between 9D and 9 versus 9 and 376. I felt that the corridor of 9D to 9 would have higher truck traffic.
- I had no idea there were buses. Where? How do you use them? Bus stops are important or at least information about bus availability. No one at the meeting was aware of the buses either.

**7. Any other issues relevant to land use, zoning or transportation in this corridor that you would like to discuss? Any questions for the consultants or project team?**

- Wife and I like to walk - from Pleasant Lane to the Junior High is very dangerous. I would like to see a wider shoulder/bikeway and walkway.
- The selling of Christmas trees at 125 Myers Corners Road is very dangerous, and the property is zoned residential. You wouldn't know it by looking at the property – you'll have to do some research at the Town Hall. He may not have a permit; he has no C.O. [Certificate of Occupancy] for his property.
- In planning consider the use of this road by many young drivers (DCC, Ketcham) as well as from parents with children attending school events.
- The traffic light at the Old State Road [Old Route 9] and Middlebush is obsolete for the amount of traffic. The intersection of 9D and Middlebush Road is difficult, as trucks have trouble making the turns from 9D onto Middlebush Road.
- I would love to see Myers Corners Road become less of an east-west highway. Take a look at Raymond Avenue – it has become a lovely place and a walker's paradise, yet it is still viable as a cut-through. The traffic must be dramatically slowed down on Myers Corners Road.
- Sidewalks for pedestrians and slowing traffic speeds (i.e. circles, bumps. etc).

**8. How often do you travel on Myers Corners/Middlebush Road? For what purposes?**

- 4 times per day to shop and visit
- Daily - I live on Pleasant Lane
- Daily - Live on Blackthorn Loop
- Everyday - Everything. I live on the road.
- Everyday – many purposes
- It's a connector to Route 9, 376, All Angels, indirectly to Route 82, also 9D – I travel it numerous times per day almost every day
- I travel daily on Middlebush. Normal daily living, also to stores, church, recreation, etc.
- Most of the time to go to Hannaford.
- Every day for work and errands. Our road has egress only onto Myers Corners Road.

- Daily to commute to Taconic/I-84/I-684. On weekends to access Route 9.

#### 9. How did you hear about tonight's meeting?

- Got card from Dutchess Office of Aging
- Poughkeepsie Journal
- Mailed notice
- Mail flyers & neighbors
- Notified by mail
- Mailing
- Meeting notice in mail. I also looked at the internet.
- Paper
- Mailing
- Mailing

#### 10. What convinced you to come tonight?

- To find out what this is about
- Curiosity
- Find out how I will be affected
- Talk about expanding Myers Corners Rd
- The safety of the taxpayer and the value of neighboring property
- Fear of changes we won't like – thought it would be about zoning changes
- I wanted to hear about what was planned. I only heard the data that is going to make up the plan. No problem, it should get better.
- Concerned Village of Wappingers Falls resident.
- I care about what happens. We moved here about 20 years ago and over time I have begun to hate Myers Corners Road and our court has felt more and more isolated.

#### Other Comments Submitted

Additional comments were submitted via email and phone calls. These are summarized below.

1. A big issue is cars turning right from 9D northbound onto Middlebush Road - they pass on the shoulder, going fast, speeding, and not stopping if the light is red. This is very dangerous. There is need for signage (e.g. No right turn on red, no passing on shoulder), and enforcement.

Consider also a median divider (like on Vassar Road/Route 9/Route 9D by South Hills Mall) so cars can't pull out and make a left; instead they would have to turn right and make a u-turn further down the road,.

Truck traffic on 9D is very loud (braking in the middle of the night); the trucks are too big for the road; and police can't pull trucks over & ticket them because there is no room.

2. MVK Landscaping (east of Ketcham High School) sells Christmas trees in the winter and landscaping materials in bulk in the summer. The site is dangerous due to the ingress and

egress into the property: vehicles enter and exit on the west side of the red barn, which is on an angle, limiting visibility. Also, vehicles entering block the view of vehicles exiting and vice versa. It would be better if the ingress and egress were separated—one on the east side of the barn and one on the west side.

Also, there are no curbs on either driveway, though they are required. Large trucks and tractor-trailers enter and exit the site—this is dangerous and limits visibility. There are wide aprons at each driveway—these should be narrowed. There is evidence of skidding—black marks on road. Dust from dirt in the summer is a health issue. The business has no Certificate of Occupancy. The business did have a Special Use Permit but it has expired.

*A copy of a letter to MVK Landscaping from the Town of Wappinger, dated May 9, 2007, was submitted. Another letter dated September 18, 1998 to Mr. Arthur D. Buckley from Kevin A Denton, Esq. was submitted.*

#### A.2 Public Meeting #2 – January 27, 2011

##### Comments Made During Open House

Comments received during the open house portion of the meeting are listed below:

1. There are speeding issues on CR 93; it needs more enforcement.
2. Drivers speed at night, especially teens. The curving roads (limited sight distance) make this dangerous. The roads should be leveled to improve visibility, especially the section near Laerdal.
3. Kids walk on the shoulder, especially to the high school— we need sidewalks.
4. Teenagers walk in the shoulder at night (for example, between the pizza place at DeGarmo Hills Plaza and Dogwood Hill Road near Route 376). It's very hard to see, and dangerous— sidewalks would be good.
5. There should be sidewalks on both sides of all roads (in general).
6. Truck traffic is an issue. Would the roundabout at CR 94 help reduce truck traffic? [Note: The roundabout would have to be designed to accommodate trucks].
7. Ervin Drive: there is a sign on CR 93 telling drivers not to block the intersection at Ervin. Drivers on CR 93 generally let cars in from Ervin. Therefore, moving the high school driveway further from Ervin may actually make it harder for cars to exit Ervin, since CR 93 traffic would be going faster, rather than stopped at the light, where it is easier for Ervin traffic to get in.
8. When I am turning left out of Ervin, I try not to let a car get by to turn right, because they block the view to the right, making it hard for me to exit. The proposed turn pockets on Ervin would not be good because they would make it harder for left-turning traffic to see to the right to exit.

9. There should be a left turn pocket into Blackthorn Loop East from CR 93.
10. There should be a left turn pocket into Robert Lane from CR 93 eastbound.
11. The signs at the high school (both permanent and temporary) are very distracting. They are close to the road.
12. Roads should be straightened; especially along large parcels. Utilities should be placed further outside the road right of way, so they don't have to be relocated each time the road is improved.
13. The Randolph School may be on the National Register of Historic Places, which could restrict changes to the driveway and/or lawn. [Note: the Randolph School is not on the National Register of Historic Places].

### Comment Forms

Comment forms were distributed at the meeting and via the website. Comments received are summarized below.

**1. Please state any questions or comments you have regarding the information presented today. Make sure to include the name of the intersection or the area you are referring to in your comments.**

- Not in favor of left and right turn lane from Ervin to Myers Corners Road – cannot see to make left turn if vehicle pulls up on right to make right turn.
- Not in favor of moving light to Blackthorn Loop – this will create same problem, cars using Kent have--cars moving faster as they pass Ervin. Currently, signs telling motorists not to block the intersection and the red light are very effective in turning left from Ervin.
- Begging for Jake Brake ban and decreased big trucks using CR 93 to bypass Route 9.
- Begging for better law enforcement on CR 93.

### Other Comments Submitted

Additional comments were submitted via email and phone calls. These are summarized below.

1. My wife and I were impressed with the proposals presented and generally support the approach used by the consultants and their short term and long term recommendations. We especially support the proposed housing density reduction (rezoning) for Cranberry Hills and the implementation of sidewalks on Myers Corners Road (CR 93), at least for the north side of the road. We also think that a roundabout at the CR 93/CR 94 intersection is a good idea.

We live on Robert Lane and would like to offer a suggestion for a near term improvement in addition to the turn pockets proposed for exiting Robert Lane. Although turn pockets exiting Robert Lane would be helpful, we believe it is more important to have a turn lane entering the

development on the eastbound lane of CR 93. Currently, most people who are waiting to make the turn keep to the left to allow eastbound traffic to pass by driving on the dirt shoulder. However, there is barely enough room and there have been cases where turning cars have been rear-ended. In addition, there are times during the day when the wait could be considerable such as when Ketcham HS and Myers Corners Elementary are letting out. The main concern is that a car waiting to turn into Robert Lane could be rear-ended and pushed into oncoming traffic. To help prevent this occurrence we propose the addition of an official turn lane on CR-93.

2. As a resident of Wappinger Falls I really enjoyed attending the CR 93 Corridor Management Public Meeting. I would like to make the following comments:
  - a. The Hannaford Plaza Drive Right-in/Right out only configuration on CR 93 is a good idea, but I believe the back alley access to Marshall Road needs to be fixed, otherwise you will have a lot nuisance traffic and congestion at the Credit Union and DMV.
  - b. I applaud the idea of placing a traffic circle at the CR 93 and CR 94 intersection at Meyers Corners. This would vastly improve the traffic flow and I believe the safety at this intersection. But I believe the County should consider placing a traffic circle at CR 94/SR 376/CR 104 just south of the DC airport.
  - c. During the warmer months, I have seen many pedestrians, mostly high school aged, walking between the numerous side streets from DeGarmo Hills Rd to Route 376. Often they are walking on the shoulders and ditches along CR 93, sometimes at night time when it is more difficult to see them, creating a dangerous condition. I think sidewalks would provide a safer and park like environment and would encourage more people to come out during pleasant weather.
3. I have just visited your web site on Myers Corner Road. All the proposals look good especially the light on Spook Hill Road. I have lived off this road for 30 years and have taken my life in my hands many times trying to make a left turn off Spook, not to mention the wait time during rush hour. I hope these improvements will happen. Please let me know when the next meeting will be.
4. I read as much as I could about plans for my road. My comments are that I do not want to see widening of the road so that people lose front yardage. Our yard lost some area the last time there was improvement here and made the house very close to the road. I do not think it would be safe to lose more yard. I think that if the speed limit was lowered along the entire road that there would be less through traffic including trucks, therefore less accidents. There are a lot of homes here and schools so the speed limit should be 30 with lower past schools and enforced. We have 40 in large spots where people drive much faster and my house has 35 but people go faster. Children walk to the store or to the high school or to events at the park and it is not safe. There should be more speed traps and tickets given for speed and also for people going through stop signs and lights. If all this was done we would not need to spend money on turning lanes and all that.

5. The signal timing along CR 93 is terrible. If you're driving the speed limit you shouldn't be continuously stopped at signals on minor streets, especially when there's no traffic there!! The timing should be set so that if you're driving the speed limit you can travel through the corridor without unnecessary stops. In particular:
  - a. Laerdal- should be actuated, not fixed-time. Especially at night, but at all times. Only should stop traffic on CR 93 when traffic exiting Laerdal trips the signal.
  - b. Ketcham HS: I often get stopped there; sometimes for no clear reason.
  - c. Hollowbrook (Marshall Rd): about half of the time I get stopped there also.
6. There should be a left turn pocket from CR 93 Eastbound into Robert Lane. Cars go outside the white shoulder line to bypass left-turners, and travel at high speed, creating dangerous conditions. There have been crashes (rear-end) here because of this issue.
  - a. If the vehicle volume doesn't meet the warrant for a turn pocket, are there any safety-related ways to still install a pocket?
  - b. Traffic volumes will increase in the future, also. If the only way to install a pocket is to meet the volume warrant, this should at least be monitored in the future.

### A.3 Public Meeting #3 – May 9, 2011 Town Board Workshop

The following comments were made at the workshop meeting. Responses from the project team are shown below each comment.

#### 1. Sidewalks:

##### a. *How would sidewalks be maintained? How would sidewalks adjacent to vacant parcels be maintained?*

Town Code Section 214-80 requires maintenance of the sidewalk (specifically snow, ice, and debris removal) by the adjacent property owner. This applies to owners of vacant parcels as well as owners of developed parcels. The Town could also collect a fee from property owners to help pay for sidewalk maintenance. This would apply to vacant as well as developed properties.

##### b. *What about snow storage?*

A 5' buffer between the edge of pavement and the sidewalk is recommended. This area could be used for snow storage.

##### c. *Is there really a need for sidewalks?*

Public feedback and input received at earlier public meetings supported a sidewalk to allow students to walk more safely to school, and for residents to walk along the corridor.

##### d. *What about a shared-use (bicycle-pedestrian) path instead of sidewalks?*

A shared-use path for bicyclists and pedestrians was considered. However, due to limited right of way, environmental constraints, topography, residential development patterns (many driveways), and the existing street network (many intersections), it was determined that wider shoulders for bicyclists and a sidewalk for pedestrians would be more feasible than a shared-use path.

#### 2. Roundabout at All Angels Hill Road (CR 94):

##### a. *What was the impetus for considering this?*

NYSDOT requires that a roundabout be considered as the first option to address a "failing" intersection. As traffic increases in the future, the intersection's operation is expected to deteriorate and improvements will be needed. A roundabout increases capacity and safety at an intersection without necessarily increasing the size of the intersection.

##### b. *What are the benefits?*

Roundabouts improve safety, reduce congestion, and reduce pollution and fuel use. When designed well, they are also aesthetically pleasing.

##### c. *How will pedestrians & bicyclists cross the intersection?*

Pedestrians are directed to cross around the outside of the roundabout, outside of the circulating area. Experienced bicyclists can ride as a vehicle through the roundabout; other bicyclists can walk their bike as a pedestrian around the outside of the roundabout.

##### d. *How will emergency vehicles from the fire station enter the intersection and get around the roundabout?*

The roundabout would be designed to accommodate emergency vehicles and trucks, and would allow them to make all turning movements, including u-turns. Emergency vehicles may find it easier to enter the intersection with a roundabout, particularly during peak hours, as traffic would be less likely to back up and block the fire station driveway.

##### e. *How much property would be taken?*

This is a planning study; specific property impacts have not been assessed. A detailed evaluation of right of way needs would have to be undertaken during the design process.

*Note: Appendix B provides additional information on roundabouts, including web links and a brochure.*

3. **Wappinger Plaza/Marshall Road:**

a. **Marshall Road is a private road.**

This study does not propose any geometric improvements on Marshall Road. Signal timing and coordination improvements are proposed at the CR 93/Marshall Road intersection. The Dutchess County Department of Public Works would work with the road owner if any coordination was required (such as for an improved connection to the plaza).

b. **The Route 9 secondary street (east of Route 9 between the plaza and Marshall Road, connecting CR 93 and New Hackensack Road) would be a better option than upgrading Marshall Road and the connection to the plaza.**

The Route 9 secondary street is recommended as a long term strategy. It is in the Town's Comprehensive Plan and is supported by the Village of Wappingers Falls and the County. However, it requires further analysis.

c. **The improved connection between Marshall Road and the plaza would have to be a new road—there is no road there now.**

The connection between Marshall Road and Plaza would be a new road built to Town standards.

d. **The plaza with Hannaford is called Wappinger Plaza, not Hannaford Plaza.**

We will make this change.

e. **If left turns are restricted at the plaza entrance on CR 93, will traffic increase at Marshall Road? What about at the entrance on Route 9?**

The analysis presented in Technical Memorandum 3 shows the impact on traffic if all the left turns entering and exiting the plaza driveway were diverted to the Marshall Road intersection. This is a conservative estimate, since some traffic would use the plaza entrance on Route 9. Based on this analysis, traffic at Marshall Road would increase, but the intersection would still operate acceptably. Traffic at the Route 9 entrance would also increase, but this intersection was not analyzed.

4. **Quaker Rd is just a dirt road now.**

If the Cranberry Hills project is developed, a new paved access road would likely be constructed opposite Kent Road.

5. **How would the realignment of Roy C. Ketcham High School be implemented? Would it require property to be acquired?**

Realignment of the Ketcham High School driveway would require coordination between the Wappinger Central School District, Dutchess County Public Works, and the Town of Wappinger. Funding would have to be identified, and property may have to be acquired. Based on meetings with school district staff, the district was supportive of this concept.

6. **Safety improvements are needed at the Myers Corners Elementary School intersection, including a left turn lane exiting the school driveway.**

At the elementary school driveway, sight distance looking right is limited due to the vertical crest in the roadway. A left turn pocket on the driveway was proposed as an option earlier in the study. Based on further discussions with the Town, left turn pockets on the driveway and other un-signalized side streets were not recommended because they can restrict sight lines (such as when a right turning vehicle blocks the view of a left turning vehicle). However, a left turn pocket on westbound CR 93 is recommended at this intersection.

7. **Why not add a right turn pocket to northbound Route 9 at CR 93?**

A right turn pocket on northbound Route 9 was considered, but it would not provide a significant reduction in delay and could require additional right of way from the Chase Bank property.

8. **How would access management (consolidating driveways, turn restrictions, etc) be implemented?**

The Town Planning Board could require developers/applicants to implement the recommended access management strategies as a condition of site plan approval. Also, the Dutchess County Department of Public Works (DCDPW) can facilitate access management by restricting turning movements at driveways on a County Road, as long as it does not eliminate access to the property.

9. **How would these potential projects be funded?**

Some of the short term strategies could be completed by DCDPW or with their assistance. Many of the long term improvement strategies would require federal transportation funding. DCDPW currently has two federally-funded projects planned on CR 93. The Town can also take advantage of private investment when new development or the redevelopment of existing properties is proposed. [Note: Chapter 4 of the Plan discusses cost estimates and funding/implementation options in more detail.]

## **B. ROUNDABOUT MATERIALS**

### **B.1 Resources**

The following websites include useful resources on roundabouts:

1. NYS Department of Transportation: <https://www.nysdot.gov/portal/page/portal/main/roundabouts>
2. Federal Highway Administration: <http://safety.fhwa.dot.gov/intersection/roundabouts/>
3. Roundabouts USA: <http://www.roundaboutsusa.com/links.html>

### **B.2 Brochure**

The attached brochure provides a good overview of roundabouts.

***“Personally, I love them, and I’ll tell you why. You only have to stop one lane of traffic, then go to the middle and wait. The cars can’t go much faster than 20 mph through the roundabout so the crossing aspect is great.”***

**Denise Haltom**

*School Crossing Guard, Suamico, Wisconsin  
Green Bay Press-Gazette  
February 6, 2001*

***“We have had a lot of people not very happy about the idea of roundabouts, but after they are constructed, those fears mostly go away.”***

**Brian Walsh**

*Washington State Department of Transportation  
Seattle Times  
June 5, 2002*

***“We all know people speed up to get through a yellow light. But at the roundabout, all the vehicles have to slow down ... we have almost 50 roundabouts now, we have a lot [fewer] personal injuries. We have fewer fatalities.”***

**James Brainard**

*Mayor, City of Carmel, Indiana  
www.nbc17.com  
November 8, 2007*

### Education is key.

Education is vital to the acceptance and success of a roundabout. Navigating a roundabout is easy. But because people can be apprehensive about new things, it’s important to educate the public about roundabout use.

There are just a few simple guidelines to remember when driving through a roundabout:

1. Slow down.
2. If there’s more than one lane, use the left lane to turn left, the right lane to turn right, and all lanes to go through, unless directed otherwise by signs and pavement markings.
3. Yield to pedestrians and bicyclists.
4. Yield at the entry to circulating traffic.
5. Stay in your lane within the roundabout and use your right-turn signal to indicate your intention to exit.
6. Always assume trucks need all available space — don’t pass them!
7. Clear the roundabout to allow emergency vehicles to pass.

Visit [safety.fhwa.dot.gov](http://safety.fhwa.dot.gov) to learn more about roundabouts

 U.S. Department of Transportation  
Federal Highway Administration

Design standards for roundabouts continue to evolve, and not all features of existing roundabouts meet current recommended practice. Please refer to FHWA’s web site for recommendations on current design practice.

Original source photo by Lee Rodegerdts. Photo has been altered to illustrate roundabout and updated signage.

# Roundabouts

## A Safer Choice



## What is a roundabout?

A roundabout is a type of circular intersection with yield control of entering traffic, islands on the approaches, and appropriate roadway curvature to reduce vehicle speeds.

Modern roundabouts are different from rotaries and other traffic circles. For example, roundabouts are typically smaller than the large, high-speed rotaries still in use in some parts of the country. In addition, roundabouts are typically larger than neighborhood traffic circles used to calm traffic.

A roundabout has these characteristics:



## Why consider a roundabout?

Compared to other types of intersections, roundabouts have demonstrated safety and other benefits.

Roundabouts:

### > Improve safety

- More than 90% reduction in fatalities\*
- 76% reduction in injuries\*\*
- 35% reduction in all crashes\*\*
- Slower speeds are generally safer for pedestrians

### > Reduce congestion

- Efficient during both peak hours and other times
- Typically less delay

### > Reduce pollution and fuel use

- Fewer stops and hard accelerations, less time idling

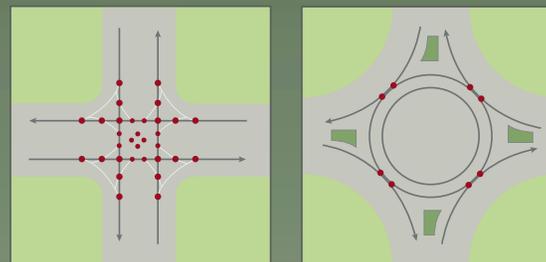
### > Save money

- Often no signal equipment to install, power, and maintain
- Smaller roundabouts may require less right-of-way than traditional intersections
- Often less pavement needed

### > Complement other common community values

- Quieter operation
- Functional and aesthetically pleasing

With roundabouts, head-on and high-speed right angle collisions are virtually eliminated.



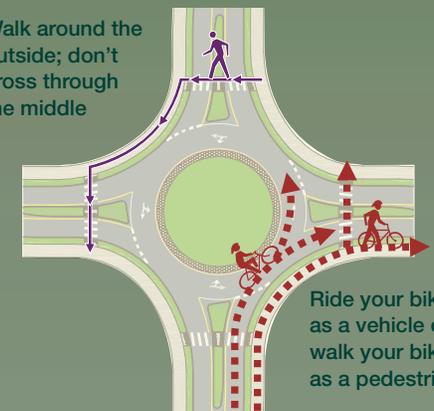
[ Traditional intersection ]

[ Roundabout ]

● Potential vehicle conflict point

### Tips for safely walking and biking through a roundabout

Walk around the outside; don't cross through the middle



Ride your bike as a vehicle or walk your bike as a pedestrian

Research is ongoing on additional treatments and design considerations to address the needs of visually impaired pedestrians.