Chapter 6-3

Lower Taconic Overview

Moving Dutchess 2 defines the Lower Taconic area as the south-central block of communities located along the Taconic State Parkway and Route 55 corridors. The area encompasses the towns of Beekman, East Fishkill, LaGrange, Pawling, and Union Vale, and the Village of Pawling. The Lower Taconic is characterized by a mix of suburban and rural land use patterns that are interspersed with concentrated development patterns in villages and hamlets such as Poughquag in the Town of Beekman, Lagrangeville in the Town of LaGrange, and Pawling village.

The six Lower Taconic communities share similar demographic, land use, and transportation characteristics. These include rapid population growth during the past 20 years, low to average population density, above average median household incomes, a large share of out-of-county commuters, and high rates of auto usage. These similarities make it more likely that the communities will face similar land use and transportation challenges during the next 30 years, and accordingly, make it more likely that they will benefit from the same types of land use and transportation strategies to improve travel conditions and their quality of life.

Demographics

The Lower Taconic communities had a 2010 population of 72,720. This was a 9.8 percent increase over 2000, representing an almost one percent annual growth rate from 2000-2010. The Lower Taconic's level of growth was higher than Dutchess County's overall 6.2 percent increase in total population. The towns of Pawling and East Fishkill had the highest rates of growth in the area. Table 6-3-1 shows population change from 2000-2010 for the Lower Taconic communities.

Table 6-3-1. Total Population-Lower Taconic (2000-2010)

	2000	2010	Percent Change
Town of Beekman	13,655	14,621	7.1
Town of East Fishkill	25,589	29,029	13.4
Town of LaGrange	14,928	15,730	5.4
Town of Pawling	5,288	6,116	15.7
Town of Union Vale	4,546	4,877	7.3
Village of Pawling	2,233	2,347	5.1

Source: U.S. Census Bureau, 2010 Census

In 2010 the Lower Taconic had a population density of 344 people per square mile, which was slightly below the county's overall density of 374 per square mile. At 1,175 per square mile, the Village of Pawling had the highest population density in the Lower Taconic area, while Union Vale had the lowest at 130. Population density information is shown on the Lower Taconic Population Density Map.

The Lower Taconic contained 27,004 housing units in 2010, a 15 percent increase from 2000. This equaled an average gain of over 358 housing units per year from 2000-2010. The area had 24,908 occupied housing units (households) in 2010,

which was a 17 percent increase from 2000. The area also had an average household size of 2.9 persons, which was unchanged from 2000. Table 6-3-2 shows housing unit totals for the Lower Taconic communities.

Table 6-3-2. Total Housing Units-Lower Taconic (2000-2010)

	2000	2010	Percent Change
Town of Beekman	4,180	4,797	14.8
Town of East Fishkill	8,495	10,039	18.2
Town of LaGrange	5,240	5,668	8.2
Town of Pawling	3,101	3,593	15.9
Town of Union Vale	1,464	1,911	30.5
Village of Pawling	945	996	5.4

Source: U.S. Census Bureau, 2000 & 2010 Census

Age

Young people and older people have different transportation needs than others: they are less likely to drive, and therefore more likely to walk (both young and old), bicycle (young people), or use transit for transportation.

Except for the Village of Pawling, the Lower Taconic communities all have higher percentages of young people (aged 16 and under) than the county average, and except for Union Vale and the Town and Village of Pawling, have lower percentages of older people (aged 65 and over). Except for the Town of Beekman, all Lower Taconic municipalities have equal or higher than average percentages of these young and older groups combined.

Table 6-3-3. Percent Young and Elderly-Lower Taconic (2010)

	% 16 and Under	% 65 and Over	Total % Under 16 and Over 65
Town of Beekman	21	9	30
Town of East Fishkill	23	11	34
Town of LaGrange	22	13	35
Town of Pawling	21	15	36
Town of Union Vale	22	13	35
Village of Pawling	19	14	33
Dutchess County	**19**	**14**	**33**

Source: U.S. Census Bureau, 2010 Census

Income

Lower-income households are also more likely to walk, bicycle and use transit for everyday needs. Based on data from the U.S. Census Bureau's 2009-2013 5-year American Community Survey, none of the Lower Taconic municipalities had median household incomes that were below the county average of $71,192-$73,858. Of note, the Towns of East Fishkill and LaGrange had the highest household incomes in the county.

Vehicle Ownership

Households without a vehicle are much more likely to seek alternative transportation. Based on data from the U.S. Census Bureau's 2009-2013 5-year American Community Survey, none of the municipalities in the Lower Taconic had zero vehicle household rates above the county average of 7.9-8.9 percent.

Centers & Destinations

Centers

The Lower Taconic hosts a variety of activity centers and noteworthy destinations that are located near major transportation facilities, such as Interstate 84, Routes 55, 82, and 376, and the Taconic State Parkway. Depending on the nature of the land use and amount of development, these centers and destinations affect travel and the transportation system in varying degrees.

Activity centers are classified as those areas that support a concentrated mix of residential and commercial development, most typically a village or hamlet, which are human in scale and supported by adequate pedestrian infrastructure. Such centers provide travelers with the ability to make more non-motorized trips than auto-dependent land uses. The Lower Taconic includes the following activity centers:

1. Hopewell Junction hamlet in East Fishkill.
2. Fishkill Plains hamlet in East Fishkill.
3. Poughquag hamlet in Beekman.
4. Freedom Plains/LaGrange town center (on Route 55) in LaGrange.
5. Pawling Village center.

The area also has an emerging center in Beekman on Route 55, southeast of CR 9 (Beekman Rd.). This emerging center has a variety of commercial parcels that could be retrofitted into a more pedestrian-oriented center.

Destinations

Major destinations include transportation hubs, large employment and commercial sites, and schools that place unique or significant demand on the transportation system. These locations can generate significant traffic volumes, especially during peak hours. The Lower Taconic includes the following major destinations:

1. Commercial plazas on Routes 22, 52, 55, 82, and 376.
2. IBM Semiconductor Research and Development Center in East Fishkill.
3. Hudson Valley Research/Corporate Park in East Fishkill.
4. John Jay High School in East Fishkill.
5. Arlington High School in LaGrange.
6. Manchester Center in Poughkeepsie.
7. Green Haven Correctional Facility in Beekman.
8. Pawling train station.
9. Pawling High School.
10. Pawling Corporation.
11. Appalachian Trail and Appalachian Trail Metro-North train station.

The Lower Taconic Overview Map shows key centers and destinations in the area.

Major Projects

The Transportation Council's 2013 Major Projects Report, which tracks large development projects in the county, identified over 4,200 new residential units in the planning

stages or under construction in the area's six communities. In addition, over 3.7 million square feet of non-residential space was also being planned for the area. Some of the larger projects in the area include the following:

1. Springs at Beekman: 199 residential units on CR 8 (Greenhaven Rd.).
2. Hopewell Glen in East Fishkill: 290 residential units on Route 376 (Fishkill Rd.).
3. Hopewell Sports Dome in East Fishkill: 343,908 sq. ft. recreational center on Route 52.
4. Linuo Solar in East Fishkill: 900,000 sq. ft. industrial on Route 52.
5. Meadow Creek Corporate Park in East Fishkill: 998,000 sq. ft. industrial, 270,880 sq. ft. office, and 2,200 sq. ft. retail on CR 27 (Lime Kiln Rd.).
6. H.G. Page in LaGrange: 791 residential units and commercial space on CR 49 (Titusville Rd.).
7. LaGrange town center: 623 residential units and commercial space on Route 55.
8. Titusville Corporate Park in LaGrange: 126,000 sq. ft. industrial on CR 49 (Titusville Rd.).
9. Castagna Development in the Town of Pawling: approximately 400 senior residential units and 350,000 square feet medical/retail on Aikendale Rd.

Although listed in the Major Projects Report, these projects may not be constructed as described or at all, due to changes made by the developer and/or through the local permitting process.

Transportation System

The Lower Taconic transportation system is road based. Two of the area's major road corridors are served by public bus and commuter rail is available in the area. Some locations are served by pedestrian or bicycle facilities.

Roads

The Lower Taconic's road system consists of Interstate 84; major State highways including the Taconic State Parkway and Routes 22, 52, 55, 82, and 376; smaller State highways including Routes 216 and 292; and major County roads including CR 7 (Beekman-Poughquag Rd.), CR 8 (Greenhaven Rd.), CR 9 (Beekman Rd.), CR 21 (Noxon Rd.), CR 27 (Lime Kiln Rd.), CR 29 (Carpenter Rd.), CR 31 (Palen Rd.), CR 47 (Freedom Rd.), and CR 49 (Titusville Rd.).

According to the NYSDOT 2013 Highway Mileage Report, the Lower Taconic communities contained 704 miles of State, County, and local roads. Table 6-3-4 shows the distribution of centerline mileage across the Lower Taconic communities.

Table 6-3-4. Centerline Mileage-Lower Taconic

	Total Centerline Mileage
Town of Beekman	96
Town of East Fishkill	260
Town of LaGrange	164
Town of Pawling	91
Town of Union Vale	78
Village of Pawling	15

The NYSDOT rating system measures pavement condition on a scale of 1 to 10, with 1 being the worst and 10 the best. A rating of 5 or less is classified as poor. According to the 2014 NYSDOT Pavement Data Report, State-owned highways in the Lower Taconic had an average surface rating of 7.0. A total of 5.1 miles of State roads were rated in poor condition. The following State route segments in the Lower Taconic were identified as being in poor condition (score of 5 or less):

1. Route 52 in East Fishkill: Corporate Park Rd. to Fishkill Town Line (0.4 miles).
2. Route 55 in LaGrange: TSP to Freedom Rd. (0.7 miles).
3. Route 82 in LaGrange: Route 55 to Sunset Hill Rd. (2.6 miles).
4. Route 82 in Union Vale: O'Brien Hill Rd. to CR 9 (Clove Rd.) (1 mile).
5. Route 376 in East Fishkill: Route 82 overlap in Hopewell Junction (0.2 miles).

In addition, DCDPW rates the condition of County-owned roads each year. According to 2014 data, no County roads in the Upper Taconic were in poor condition. The Lower Taconic Transportation System Conditions Map shows pavement conditions in the Lower Taconic.

The Transportation Council collects traffic count data for County and local roads and receives count data from NYSDOT for State highways. Based on a review of data from 2010-2014, the following roads had the highest Average Annual Daily Traffic (AADT) volumes in the Lower Taconic:

1. I-84 in East Fishkill: 51,700
2. Taconic State Parkway (TSP) in East Fishkill: 32,900
3. Route 82 in East Fishkill: 19,000
4. Route 55 in LaGrange: 18,600
5. Route 22 in Pawling: 18,100
6. CR 44 (Red Oaks Mill Rd.) in LaGrange: 16,000
7. CR 21 (Noxon Rd.) in LaGrange: 14,800
8. Taconic State Parkway (TSP) in LaGrange: 13,900
9. CR 49 (Titusville Rd.) in LaGrange: 13,300
10. Route 376 in East Fishkill: 11,500
11. Route 55 in Union Vale: 9,800
12. CR 9 (Beekman Rd.) in East Fishkill: 8,700
13. CR 9 (Beekman Rd.) in Beekman: 8,200
14. Route 82 in LaGrange: 7,400
15. Route 55 in Beekman: 6,300

Congestion Management Process (CMP)

The Transportation Council completed a CMP progress report in 2006, which identified locations with severe, heavy, and moderate peak hour congestion, based on vehicle-to-capacity ratios for evening peak hour. The following Lower Taconic road segments were classified as severely congested during peak periods.

1. Route 55 in LaGrange: Taconic State Parkway to CR 47 (Freedom Rd.), and Mandalay Dr to CR 49 (Titusville Rd.).
2. CR 49 (Titusville Rd.) in LaGrange: Daley Rd. to CR 44 (Red Oaks Mill Rd.).

The 2011 Travel Time Survey elaborated on the Step 2 report data by collecting travel time data on key routes during

morning, mid-day, evening, and weekend periods. Based on the data collected, the following roadways in the Lower Taconic experience overall congestion (defined as having a ratio of peak-period travel time to non-peak travel time greater than 1.3):

1. Route 55 between CR 49 (Titusville Rd.) and CR 21 (Noxon Rd.):
   - Westbound: AM, Mid-day, Saturday
   - Eastbound: AM, PM
2. Route 55 between CR 46 (Freedom Rd.) and the Taconic State Parkway:
   - Westbound: AM, Mid-day, PM, Saturday
   - Eastbound: Mid-day, Saturday
3. Route 52 CR 31 (Palen Rd.) and the Taconic State Parkway:
   - Eastbound: AM, Mid-day, PM
   - Westbound: AM, Mid-day, PM
4. Route 22 approaching CR 67 (Quaker Hill Rd.):
   - Northbound: PM

The Dutchess County Transportation System Performance Maps show travel time data by roadway segment.

Bridges

The Lower Taconic transportation system includes 103 road bridges, defined as a bridge structure with a span more than 20 feet in length. The NYSDOT condition rating scale ranges from 1 to 7, with 7 being in new condition and a rating of 5 or greater considered as good condition. In 2010 the bridges collectively had an average NYSDOT condition rating of 5.0. NYSDOT defines a deficient bridge as one with a State condition rating of less than 5. A deficient condition rating indicates deterioration to a level that requires corrective maintenance or rehabilitation to restore the bridge to a fully functional, non-deficient condition; it does not imply that the bridge is unsafe. The Lower Taconic has 40 bridges that are classified as deficient under the NYSDOT rating system. Table 6-3-5 lists the number of bridges by municipality and their average State rating.

Table 6-3-5. Average Bridge Ratings-Lower Taconic

	Number of Bridges	Average NYSDOT Rating
Town of Beekman	11	5.2
Town of East Fishkill	48	4.9
Town of LaGrange	26	4.9
Town of Pawling	7	5.6
Town of Union Vale	8	4.9
Village of Pawling	3	5.3

The Federal Highway Administration (FHWA) bridge rating system, which differs from the State system, rates bridges on a scale of 1 to 9. The federal ratings are used to identify bridges that do not meet contemporary standards. Those bridges are classified as either “structurally deficient” or “functionally obsolete.”

According to the FHWA, bridges are considered “structurally deficient” if significant load carrying elements are found to be in poor or worse condition due to deterioration and/or damage, the bridge has inadequate load capacity, or repeated

bridge flooding causes traffic delays. A "structurally deficient" bridge does not imply that it is unsafe or likely to collapse. A "structurally deficient" bridge, when left open to traffic, typically requires significant maintenance and repair to remain in service and eventual rehabilitation or replacement to address deficiencies. In order to remain in service, structurally deficient bridges are often posted with weight limits.

“Functionally obsolete” refers to a bridge’s inability to meet current standards for managing the volume of traffic it carries, not its structural integrity. A bridge may be “functionally obsolete” if it has narrow lanes, no shoulders, or low clearances.

The Lower Taconic has 11 bridges classified by FHWA as structurally deficient and 42 classified as functionally obsolete. The distribution by community is listed in Table 6-3-6 below. The Lower Taconic Transportation System Conditions Map identifies bridges rated as structurally deficient and functionally obsolete based on federal standards.

Table 6-3-6. Structurally Deficient & Functionally Obsolete Bridges-Lower Taconic

	Structurally Deficient	Functionally Obsolete
Town of Beekman	0	3
Town of East Fishkill	5	23
Town of LaGrange	3	11
Town of Pawling	0	2
Town of Union Vale	2	2
Village of Pawling	1	1

Transit

The Dutchess County Public Transit bus system operates two fixed routes in the Lower Taconic:

1. Route E between Poughkeepsie and Pawling: Monday-Saturday service from 5:30 a.m. to 12:07 p.m., with up to 20 buses per day including six daily round trips between Poughkeepsie and Pawling. This route primarily serves the Route 55 corridor and a portion of the Route 22 corridor.
2. Route F between Beacon and Hopewell Junction: Monday-Friday service from 6:55 a.m. to 9:30 p.m., with up to seven buses per day. Though Route F operates on Saturdays, it does not stop in the Lower Taconic on that day. Route D primarily serves the Route 52 corridor.

Metro North Railroad operates a train station on the Harlem Line in the Village of Pawling. As of 2015, the station supported 13 daily trains to Grand Central Station; four of these were through trains and the remainder required a transfer at the Southeast station in Putnam County. The Pawling station contains 211 parking spaces. The Harlem Line also stops at the Appalachian Trail in the Town of Pawling on certain weekends and holidays.

Pedestrian and Bicycle Transportation

Sidewalk Systems

The Lower Taconic has approximately 30 miles of sidewalks. The majority are in the Town of East Fishkill. Minor sidewalk systems are located in some of the hamlets and larger

residential and commercial properties. When considered on a per-resident basis, the Village of Pawling has the most sidewalks per resident in the Lower Taconic, and ranks 8th out of the 30 municipalities in the county. Sidewalk mileage by municipality and per resident is shown in Table 6-3-7.

Table 6-3-7. Sidewalk Mileage & Population (2010)-Lower Taconic

	Sidewalks (miles)	Sidewalk Feet per Resident	County-wide Rank
Town of Beekman	0.4	0.1	28
Town of East Fishkill	11.7	2.1	23
Town of LaGrange	6.7	2.3	21
Town of Pawling	2.6	2.3	20
Town of Union Vale	1.0	1.1	26
Village of Pawling	7.6	17.0	8

Trail Systems

The Lower Taconic has approximately 50 miles of unpaved trails. Major recreational trails in the area include:

1. Appalachian Trail: 22.5 miles through three towns:
   - Town of East Fishkill: 8.5 mile segment
   - Town of Beekman: 7.5 mile segment
   - Town of Pawling: 6.5 mile segment
2. Town of Pawling Nature Trails: 7.9 mile nature trail
3. Tymor Town Park in Union Vale: 7.5 mile trail network
4. James Baird State Park in LaGrange: 6.2 mile trail network
5. Lakeside Park and Murrow Park in Pawling: 6 miles
6. Red Wing Nature Trails in LaGrange: 4.2 mile nature trail

Shared-Use Paths

Portions of the Dutchess Rail Trail run through both the Town of LaGrange (approximately 3 miles) and the Town of East Fishkill (approximately 2.5 miles, from the Town line to Hopewell Junction).

Bicycling Facilities

There are two on-street bicycle facilities in the Lower Taconic, both shared-lane use markings (sharrows) in the Village of Pawling: on Charles Colman Boulevard between West Main St. and Union St., and on West and East Main St. between Dutcher Ave. and Coulter Ave.

In addition, NYSDOT has several proposed State Bicycle Routes (SBR) which connect to the area:

1. An extension of SBR 22 south on Route 22 between Columbia County through Dutchess and Putnam counties.
2. Proposed SBR 55, along Route 55 between a proposed SBR 44 in the Town of Poughkeepsie and a proposed SBR 22 in the Town of Pawling.
3. Proposed SBR 52, along Route 52 between Route 9D in Beacon and Putnam County.
4. Proposed SBR 82, along Route 82 between a proposed SBR 199 in Pine Plains and the proposed SBR 52 in Fishkill.

Bicycle parking is provided at some destinations in the area, including the East Fishkill Depot Museum, the McDonald's in Fishkill Plains, the Pawling Metro-North station, and the Pawling library.

Accessibility

In 2010 NYSDOT conducted an ADA inventory of the State transportation system. The inventory identified intersections and sidewalk segments that required improvements to fully achieve ADA accessibility standards. Two locations were identified in the Lower Taconic, both located on Route 376 in Hopewell Junction (Town of East Fishkill): 1) Ramp at the Route 82 intersection, and 2) Sidewalk from Route 82 to Orchid Pl. For additional data on walking and bicycling patterns, see Walk Bike Dutchess, Chapter 5.3 (Lower Taconic).

Park-and-Ride Facilities

The Lower Taconic hosts five State-operated park-and-ride facilities:

1. Taconic State Parkway and Route 52 in East Fishkill (100 spaces).
2. Taconic State Parkway near Todd Hill Rd. in LaGrange (60 spaces).
3. Route 82 near the Taconic State Parkway in Arthursburg (East Fishkill) (51 spaces).
4. Lime Kiln Rd. near I-84 (eastbound) in East Fishkill (90 spaces).
5. Le Chambord Restaurant on Route 52 (near the Taconic State Parkway) in East Fishkill (30 spaces).

Other Transportation Facilities

The Lower Taconic hosts two small public airports: 1) Sky Acres Airport located on North Smith Rd. in the Town of Union Vale, and 2) Stormville Airport located on Route 216 in the Town of Beekman (not shown on the overview map).

Transportation Safety

The Transportation Council analyzed vehicle crash data from the NYS Governor's Traffic Safety Committee (GTSC), focusing on total crashes and crash rates based on road mileage. In 2013, the most recent data available, the GTSC reported that 445 crashes with fatalities or injuries occurred in the Lower Taconic; this was slightly lower than the 468 fatal and injury crashes reported in 2009 for *Moving Dutchess*. Table 6-3-8 shows the total number of reported crashes with fatalities or injuries by municipality for 2011-2013.

Table 6-3-8. Fatal & Injury Crashes-Lower Taconic (2011-2013)

	Fatal & Injury Crashes			3-Year Average
	2011	2012	2013	
Town of Beekman	46	40	44	43
Town of East Fishkill	182	176	169	176
Town of LaGrange	140	176	155	157
Town of Pawling	34	34	32	33
Town of Union Vale	22	27	32	27
Village of Pawling	9	9	13	10

Measured in terms of road mileage, the Lower Taconic communities had an average fatal/injury vehicle crash rate of

0.5 crashes per road mile in 2013, which was the same rate reported in 2009 for *Moving Dutchess*. The Lower Taconic's 2013 fatal/injury crash rate remained below the county average of 0.8; though, the Town of LaGrange had an above average crash rate, with one fatal/injury crash occurring per mile. Table 6-3-9 shows crash rates per mile by community from 2011-2013.

Table 6-3-9. Crash Rate per Mile-Lower Taconic (2011-2013)

	Crash Rate Per Mile			3-Year Average
	2011	2012	2013	
Town of Beekman	0.5	0.5	0.5	0.5
Town of East Fishkill	0.7	0.7	0.7	0.7
Town of LaGrange	0.9	1.1	1.0	1.0
Town of Pawling	0.4	0.4	0.4	0.4
Town of Union Vale	0.3	0.4	0.4	0.4
Village of Pawling	0.6	0.6	0.9	0.7

NYSDOT, in conjunction with NYSDMV and the Office of Cyber Security & Critical Infrastructure Coordination (CSCIC), maintains an online database of motor vehicle crashes called the Accident Location Information System (ALIS). The Transportation Council conducted an analysis of 2010-2014 ALIS crash data to identify general crash trends in the Lower Taconic. Based on this 2010-2014 data, the Transportation Council identified high-crash intersections and roadway segments in the Upper Taconic. The following Lower Taconic locations experienced some of the highest number of crashes/crash rates over the five-year period (see also the Lower Taconic Crash Analysis Map):

Intersections (Total Crashes)

1. CR 21 (Noxon Rd.) and CR 49 (Titusville Rd.) in the Town of LaGrange (78 crashes).
2. Route 55 and Route 82 in the Town of LaGrange (50 crashes).
3. Route 55 (Manchester Rd.) and CR 46 (Overlook Rd.) in the Town of LaGrange (43 crashes).
4. Route 82 and Route 376 in the Town of East Fishkill (40 crashes).
5. Route 55 (Manchester Rd./Freedom Plains Rd.) and CR 21 (Noxon Rd.) in the Town of LaGrange (35 crashes).
6. Route 55 and CR 21 (Bruzgul Rd.) in the Town of Union Vale (31 crashes).

Roadway Segments (Total Crashes and/or Crashes per Mile)

1. Taconic State Parkway (northbound) between CR 21 (Noxon Rd.) and Todd Hill Rd. in the Town of LaGrange (36 crashes; 36 crashes per mile).
2. Taconic State Parkway (southbound) between Route 55 (westbound) exit ramp and Route 55 (eastbound) exit ramp in the Town of LaGrange (27 crashes; 328 crashes per mile).
3. Taconic State Parkway (northbound and southbound) between CR 9 (Beekman Rd.) and Route 82 in the Town of East Fishkill (141 crashes; 34 crashes per mile).
4. Taconic State Parkway (northbound) between CR 29 (Carpenter Rd.) and CR 9 (Beekman Rd.) in the Town of East Fishkill (48 crashes; 46 crashes per mile; one fatality in 2011).

5. Taconic State Parkway (northbound and southbound) between CR 29 (Carpenter Rd.) and Route 52 in the Town of East Fishkill (124 crashes; 38 crashes per mile).
6. Taconic State Parkway (northbound) between I-84 (westbound) and Route 52 in the Town of East Fishkill (42 crashes; 54 crashes per mile).
7. Taconic State Parkway (northbound and southbound) between Miller Hill Rd. and I-84 in the Town of East Fishkill (153 crashes; 48 crashes per mile).
8. Route 55 between CR 47 (Freedom Rd.) and Dr. Fink Rd. in the Town of LaGrange (75 crashes; 257 crashes per mile).
9. Route 55 between Velie Rd. and Route 82 in the Town of LaGrange (75 crashes; 78 crashes per mile).
10. CR 21 (Noxon Rd.) between Meier Rd. and Feller Rd. in the Town of LaGrange (44 crashes; 42 crashes per mile).
11. CR 21 (Noxon Rd.) between CR 49 (Titusville Rd.) and Scenic Hills Dr. in the Town of LaGrange (47 crashes; 188 crashes per mile).
12. CR 49 (Titusville Rd.) between Daley Rd. and Davis Rd. in the Town of LaGrange (49 crashes; 141 crashes per mile).

Pedestrian & Bicycle Safety

The Transportation Council also analyzed the 2009-2013 crash data to determine pedestrian and bicycle crash rates per 1,000 people for each municipality. Based on this analysis, the Village of Pawling was the only Lower Taconic community to have a pedestrian crash rate (0.63) above the county average of 0.29 crashes per 1,000 people. None of the Lower Taconic communities had bicycle crash rates above the county average of 0.15 bicycle crashes per 1,000 people.

Walk Bike Dutchess also identified one high-crash corridor for pedestrians and one for bicyclists in the Lower Taconic:

1. Pedestrian: Town of East Fishkill, Route 376 (Hillside Lake Rd.) between Robinson Ln. and Flanders Rd.: 1.5 miles; 4 crashes; 2.8 crashes/mile.
2. Bicycle: Town of East Fishkill, Route 82 between CR 28 (Old Hopewell Rd.) and CR 9 (Beekman Rd.): 2.4 miles; 5 crashes; 2.1 crashes/mile.

Local Comprehensive Plans

The Transportation Council reviewed each community's comprehensive plan to identify land use and transportation recommendations relevant for *Moving Dutchess 2*. For many of the communities, the recommendations involve land use policies and projects that promote non-motorized travel, maintain community character, improve safety, and reduce congestion.

Town of Beekman

The Town of Beekman updated its comprehensive plan in 2011. The plan includes the following transportation related recommendations:

1. Support a multi-modal transportation system by exploring opportunities to improve public transportation in the town.
2. Work with the Dutchess County Division of Mass Transit to expand senior transportation services.

3. Partner with the Dutchess County Division of Mass Transit to expand bus service and include a route from the Town to the Poughkeepsie Bus Station.
4. Foster a safe and efficient transportation network throughout the town.
5. Slow traffic on Route 55 in the proposed town center through use of traffic calming devices such as roundabouts, bump-outs, signage, and textured sidewalks.
6. Address traffic issues on CR 7 (Beekman-Poughquag Rd.) and in the Sylvan Lake/Taconic Area.
7. Construct turning lanes on CR 9 (Beekman Rd.) through Greenhaven.
8. Improve and enhance the parking in the town's commercial areas.
9. Enhance mobility and accessibility throughout the town via improvements or new infrastructure designed to accommodate a variety of transportation modes for the safety, convenience, and efficiency of drivers, cyclists, and pedestrians.
10. Promote and encourage a safe and contiguous system of sidewalks, bike trails and pathways throughout the town center and the Hamlets.
11. Develop a plan to ensure that any new sidewalk system is inviting and properly maintained, particularly in the town center area.
12. Improve and maintain the integrity and capacity of existing roads through access management.
13. Hire a consultant to work with the Town Highway Department to complete an Alternative Roadway Study to examine the need for new roads or extensions to provide additional access, convenience, and enhanced safety.
14. Evaluate the feasibility of constructing parallel roads in the town center to allow convenient and safe secondary access along Route 55.

Town of East Fishkill

East Fishkill adopted its comprehensive plan in 2002. The plan devotes a chapter to transportation issues, which is based on a traffic circulation plan completed by the town in 2001. The plan identifies the following transportation related issues and recommendations:

1. Expand parking at the Taconic State Parkway/Route 52 and Lime Kiln Rd. (near I-84) park-and-ride facilities.
2. Develop grade separated intersections at Carpenter Rd. and Hosner Mountain Road on the Taconic State Parkway.
3. Explore ways to improve safety at the Route 52 and Route 82 interchanges on the Taconic State Parkway.
4. Realign Route 376 near Railroad Ave. to eliminate an unsafe, 90 degree turn.
5. Construct several bypass roads around the Hopewell Hamlet and a new road connecting CR 31 (Palen Rd.) to Route 376.
6. Construct a service road behind the commercial plazas along Route 82.
7. Implement access management design elements for new development on major roads.
8. Pursue a trail on the infrequently used Beacon rail line from Hopewell Junction to a planned trail in Putnam County.

Town of LaGrange

The Town of LaGrange adopted its comprehensive plan in 2005. The plan includes the following transportation related recommendations:

1. Realign the Arlington High School entrance with Stringham Rd. (completed in 2014).
2. Conduct a safety and operational study of Town roads to prioritize maintenance activities and future improvements.
3. Develop a network of multi-use trails throughout the Town.
4. Coordinate with NYSDOT and Dutchess County to designate new bicycle routes.
5. Install sidewalks, crosswalks, and bicycle facilities where feasible.
6. Develop access management standards to reduce vehicle traffic and promote pedestrian activity.

Town of Pawling

The Town of Pawling updated its comprehensive plan in 2012. The plan includes the following transportation related recommendations:

1. Construct a feeder road south of the Village to bypass high traffic areas on Route 22 and the Akindale Rd. intersection.
2. Improve capacity issues on Akindale Road and on Coulter Avenue/Pine Street.
3. Improve deficiencies in the capacity of the intersection of CR 67 (Quaker Hill Road) and East Main Street, through the provision of a through/left turn lane and a separate right turn lane for the eastbound movement.
4. Explore possible safety improvements at the Akindale Road/Route 22 and Dutcher Avenue/Route 55 intersections.
5. Modify the intersection at Lakeside Park and CR 20 (West Dover Rd.) to create a “T” intersection.
6. Explore the widening of Route 22 to two lanes in either direction from Pawling south to I-684.
7. Classify the following intersections as “key local intersections” necessitating further examination:
   - Route 292 at Holmes Rd.
   - Route 292 at Bundy Hill Rd.
   - Route 292 at South Rd.
8. Reduce the number of driveways and access points.
9. Encourage shared access between adjacent properties.
10. Encourage the development of trails.

Village of Pawling

The Village of Pawling adopted its comprehensive plan in 1994**.** The plan includes the following transportation related recommendations:

1. Improve the safety and operations of the following intersections:
   - Route 22 at Coulter Ave.
   - Route 22 at East Main St
   - West Main St. at Lakeside Dr.
   - Main St. at Colman Blvd. and Memorial Ave.
   - East Main St. at Coulter Ave.

2. Complete the sidewalk system within the Village center.
3. Build new sidewalks along arterials and collectors outside the Village center.
4. Continue to work with Metro-North on the expansion of train service and improvements at the train stop.
5. Study where bicycle routes could be created.
6. Consider adoption of a scenic roads overlay.

Town of Union Vale

The Union Vale Comprehensive Plan, adopted in 2001, primarily focuses on local land use, particularly preserving the Town's rural character. Transportation related recommendations include the following items:

1. Develop a vision for a town-wide trail system and incorporate it into the Open Space Plan.
2. Look for opportunities to develop recreational pathways, which separate conflicting users (pedestrians and bicyclists vs. motorized users).
3. Develop connections between large public open spaces using existing trail systems, utility or transportation right-of-ways, and corridors.
4. Review and revise commercial parking and roadway access requirements, and review and revise standards for new roads as necessary.

Previous Transportation Council Studies

The Transportation Council has performed a number of local planning studies in the Lower Taconic, including the Hopewell Hamlet Pedestrian Plan (2002), the Route 22 Corridor Management Plan Study (2002), the Village of Pawling Parking Study (2003), the LaGrange town center Plan (2005), and the Dutchess County Transit Development Plan (2009). The Transportation Council has also worked with the Dutchess County Planning Department on a town center plan for Beekman. A summary of each is included below. Complete documents are available on the Transportation Council's website.

Hopewell Hamlet Pedestrian Plan (2002)

The Hopewell Hamlet Pedestrian Plan was a collaborative effort of the Transportation Council, NYSDOT, the Dutchess County Planning Department, and the Town of East Fishkill that sought to improve pedestrian safety and access in the Town's principal commercial area. The Hopewell Pedestrian Plan included an analysis of existing conditions, focusing on pedestrian safety and access, community aesthetics, and facility maintenance. Specific recommendations included:

1. Install warning devices on Route 82 and 376 to alert approaching drivers to the presence of people walking.
2. Install crosswalks across Route 82 and 376 at major street intersections.
3. Redesign Route 376 into a boulevard.
4. Construct new or rebuilt sidewalks on Route 82 and Route 376.
5. Consider a roundabout at Route 82 and Trinka Lane.

6. Add a new pedestrian connection to the Dutchess Rail Trail, including a multi-use path between the Dutchess Rail Trail and Red Wing Park.

Route 22 Corridor Management Plan (2002)

The Transportation Council, in conjunction with the Harlem Valley Partnership, completed the Route 22 Corridor Management Plan (CMP) in 2002. The plan sought to assist communities and NYSDOT with making decisions about future development, road access, and transportation improvements. The study area covered six communities, including the Town and Village of Pawling, along the entire 40-mile length of Route 22 in Dutchess County, between Putnam and Columbia counties.

The CMP included an inventory of existing conditions related to the transportation system, land use and zoning, and traffic operations, and also a build-out analysis of projected development the potential impacts on travel. The CMP offered transportation and land use recommendations for each community. For the Pawling area, these included the following:

1. Designate greenbelts and use the transfer of development rights to preserve open space.
2. Create a cluster provision or overlay district in the Town to preserve open space.
3. Create a limited access overlay in the Village to limit the number of driveways.
4. Incorporate access management tools into site plan reviews and subdivision regulations.
5. Improve safety at the Route 22/Aikendale Rd. and Route 22/Coulter Ave./Pine St. intersections.
6. Add a pedestrian/bicycle connection via Main St., from Route 22 at CR 67 (Quaker Hill Rd.), to the Pawling Metro-North station.
7. Consider road capacity improvements on Aikendale Rd. and Coulter Ave./Pine St.

Village of Pawling Parking Study (2003)

This Parking Study originated from a request from the Village of Pawling to evaluate downtown parking conditions. The study supported preliminary design work on the federally funded Village Green project adjacent to the Metro-North train station.

The Parking Study determined that there was adequate parking capacity within the Village downtown to support demand. The study recommended that the Village consistently enforce parking laws, provide more information about available parking, and consider developing agreements with private property owners to make parking spaces available to the public. The study also noted that the Village would benefit from improved pedestrian infrastructure, which would encourage visitors to walk greater distances.

LaGrange Town Center Plan (2005)

The LaGrange Town Center Plan focused on the area along Route 55 between Freedom Road and Stringham Rd. It

recommended redesigning Route 55 with roundabouts at Freedom Rd. and Stringham Rd., sidewalks, a landscaped median, bicycle lanes, on-street parking, street trees, and an interconnected street system south of Route 55, designed to allow people to park once and walk to civic and commercial destinations. The Illustrative Plan was included in the Town's 2005 Comprehensive Plan. In 2014 NYSDOT completed a redesign of Route 55 that included three new roundabouts at CR 47 (Freedom Rd.), the Freedom Business Center/LaGrange Town Square, and the Arlington High School entrance. The project included new sidewalks on the north side of Route 55 and the east side of Stringham Rd., and a new landscaped median on Route 55 itself.

Dutchess County Transit Development Plan (2009)

The 2009 Dutchess County Transit Development Plan (TDP) included a long term recommendation to create a new fixed bus route to serve the entire Route 22 corridor, from the Town of North East and Village of Millerton, through Amenia and Dover, to the Town and Village of Pawling. The new route would travel between the Pawling Railroad Station and the Village of Millerton along Route 22. The TDP also recommended service to Metro-North Harlem Line stations.

CR 9 (Beekman Rd.) Safety Assessment (2013)

In 2013 the Transportation Council completed a Safety Assessment (SA) of CR 9 (Beekman Rd.) from CR 7 (Beekman-Poughquag Rd.) to Route 55 in the Town of Beekman. The Transportation Council, relying on a Team that included representatives from DCDPW, the Dutchess County Sheriff's Office, Town of Beekman, and NYSDOT, identified low-cost, high-impact improvements to address safety issues related to speeding, narrow lanes and shoulders, horizontal and vertical alignments, limited sight distances, and wet-weather crashes. The SA produced a menu of improvements that ranged from short-term solutions such as installing new warning signs, remarking pavement, and trimming trees to long-term items such as reconfiguring intersections and repaving curves.

Natural & Historic Resources

The Transportation Council reviewed natural and historic resource information from the State and County to identify potential constraints relevant to transportation planning in the Lower Taconic area. This process started with an inventory of 100-year and 500-year floodplains, NYSDEC wetlands, federal, State, and locally designated parklands, agricultural lands, critical environmental areas, and designated historic districts. These resources are shown on the Lower Taconic Natural & Historic Resources Map.

Waterbodies & Watersheds

The Lower Taconic contains a number of large waterbodies that are 25 acres in size and larger:

1. Town of Beekman: Sylvan Lake (116 acres).
2. Town of East Fishkill: Black Pond (176 acres), Hillside Lake (26 acres), Lake Walton (42 acres).
3. Town of Pawling: Lake Dutchess (51 acres), Green Mountain Lake (35 acres), Little Whaley Lake (52 acres),

Nuclear Lake (55 acres), Quaker Lake (64 acres), and Whaley Lake (287 acres).
4. Town of Union Vale: Abel's Lake (59 acres).

The area also contains a number of major streams:

1. Town of Beekman: Whaley Lake Stream, Whortlekill Creek, Fishkill Creek, and Frog Hollow Brook.
2. Town of East Fishkill: Wiccopee Creek, Fishkill Creek, Sprout Creek, Whortlekill Creek, and Shenandoah Brook.
3. Town of LaGrange: Sprout Creek, Wappinger Creek, and Whortlekill Creek.
4. Town of Pawling: Whaley Lake Stream, Swamp River, Sawmill Brook, Quaker Brook, East Branch Croton River, Deuel Hollow Brook, Burton Brook, and Housatonic River.
5. Town of Union Vale: Fishkill Creek, Mill Brook, Sprout Creek, and Whaley Lake Stream.
6. Village of Pawling: Swamp River and East Branch Croton River.

Parts of four watersheds lie in the Lower Taconic: the Fishkill Creek watershed, which covers most of Beekman, East Fishkill, and Union Vale, and parts of LaGrange; the Sprout Creek watershed in LaGrange; the Whaley Lake watershed in southern Beekman and eastern Pawling; and the East Branch watershed in northern Pawling. Pawling also includes small sections of three other watersheds that reach into Connecticut.

Floodplains

Floodplains make up a moderate percentage of some Lower Taconic communities, as shown in Table 6-3-10. The Village of Pawling has the highest percentage of land area within 100-year and 500-year floodplains in this region, and the Town of East Fishkill ranks second in the county based on acreage of land in 100-year and 500-year floodplains.

Table 6-3-10. Floodplains-Lower Taconic

	Total Floodplain Acreage	Percent of Land Area
Town of Beekman	816	4
Town of East Fishkill	4,485	12
Town of LaGrange	2,679	10
Town of Pawling	1,857	7
Town of Union Vale	759	3
Village of Pawling	197	16

A number of transportation facilities in the Lower Taconic are subject to periodic flooding due to their location within designated 100-year and 500-year floodplains, NYSDEC wetlands, or adjacent to waterbodies. These include:

1. Route 55 in LaGrange (Manchester Bridge area and east of the Taconic State Parkway intersection) and Pawling (near Route 292).
2. Route 82 near the Taconic State Parkway in LaGrange.
3. CR 21 (Noxon Rd.) near the CR 42 (Arthursburg Rd.) intersection in LaGrange.

4. In and around the Route 52 and 376 intersection in East Fishkill.
5. CR 31 (Palen Rd.) south of the Route 376 intersection in East Fishkill.
6. CR 8 (Greenhaven Rd.) south of the CR 9 (Beekman Rd.) intersection in Beekman.
7. CR 21 (Bruzgal Rd.) east of the CR 9 (Clove Rd.) traffic circle in Union Vale.
8. CR 69 (Dutcher Ave.) in the Village of Pawling.

Agriculture & Open Space

The Dutchess County Planning Department's Centers and Greenspaces Guide identifies suburban development and areas susceptible to suburban development, classified as parcels under five acres that are outside of centers. These areas are concentrated along major road corridors including Route 52, 55, and 376. They are also present in large sections of Beekman, East Fishkill, and LaGrange. The guide also identifies protected and agricultural lands, which are concentrated in Pawling and Union Vale, as well as the eastern portion of Beekman.

The Lower Taconic contains 21,766 acres of land that received agricultural value assessments in 2014. These assessments identify properties that have active farms, nurseries, stables, or other agricultural operations, representing 16 percent of the area's total land area. Table 6-3-11 shows the total acreage of agricultural assessed lands by municipality and its share of each municipality's land area.

Table 6-3-11. Agricultural Assessed Land-Lower Taconic

	Total Agricultural Assessed Acreage	Percent of Land Area
Town of Beekman	2,788	14
Town of East Fishkill	4,161	11
Town of LaGrange	4,431	17
Town of Pawling	5,826	21
Town of Union Vale	4,560	19
Village of Pawling	112	9

The Lower Taconic also contains almost 36,577 acres of land certified by the NYS Department of Agriculture & Markets designated as Agricultural Districts. These districts are locally designated parcels that currently serve or could serve agricultural purposes. These districts represent 27 percent of the area's total area and include most of the agriculturally assessed lands. Table 6-3-12 shows total agricultural district acreage by municipality and its share of each municipality's land area.

Table 6-3-12. Agricultural District Acreage-Lower Taconic

	Total Agricultural District Acreage	Percent of Land Area
Town of Beekman	4,590	23
Town of East Fishkill	6,751	18
Town of LaGrange	6,772	26
Town of Pawling	8,304	30
Town of Union Vale	10,160	43
Village of Pawling	119	9

The Lower Taconic includes five farms that have been protected through the Dutchess County Partnership for Manageable Growth:

1. Abel Tree Farm (188 acres) in Union Vale.
2. Bos Haven Farm (177 acres) in the Towns of Washington and Union Vale.
3. Fishkill Farm (266 acres) in East Fishkill.
4. McIntosh Farm (304 acres) in Beekman.
5. Silver Ledge Farm (402 acres) in East Fishkill.

The Lower Taconic hosts 2,886 acres of major federal, State and local parkland. Key parks include:

1. East Fishkill Recreation Park (60 acres) in East Fishkill.
2. Dutchess Rail Trail sections (77 acres) in the Towns of East Fishkill and LaGrange.
3. Freedom Park (91 acres) and Stringham Park (69 acres) in LaGrange.
4. James Baird State Park (615 acres) in LaGrange.
5. Tymor Park (467 acres) in the Towns of Union Vale and Beekman.

Critical Environmental Areas

The Lower Taconic includes four locally designated Critical Environmental Areas (CEAs), which are recognized by NYSDEC as having significant impacts on the natural environment:

1. The Great Swamp (Dover, Pawling, and Village of Pawling), located west of Route 22 (benefit to human health).
2. Little Whaley Lake and watershed, east of Route 292 in the Town of Pawling (unpolluted drinking water source).
3. Quaker Lake/Deuel Hollow area on Quaker Lake Rd., near CR 61 (N. Quaker Hill Rd.) in the Town of Pawling (unpolluted drinking water source).
4. Hurd's Corner east of Route 22, along Hurds Corner Rd. in the Town of Pawling (significant historical features).

The Draft New York State Open Space Conservation Plan of 2014 identifies the following Regional Priority Conservation Projects in the Lower Taconic:

1. The Great Swamp: among the three largest wetlands in New York State, located in the Towns of Dover and Pawling, and the Village of Pawling.
2. Hudson Tributaries: Sites which protect habitat and provide access to stream banks of tributaries, including the Fishkill Creek, Sawmill Creek, Wappinger Creek.
3. Dutchess County's important agricultural areas: the Sprout Creek Area in the Towns of Washington, Union Vale, and LaGrange; the Clove Valley in the Towns of Union Vale and Beekman; and the Great Swamp area in the Town of Pawling.
4. Appalachian National Scenic Trail: A continuous 2,100-mile trail spanning from Maine to Georgia, including parts in New York State in the towns of Pawling and Dover.

Historic Resources

The Lower Taconic contains the following historic sites:

1. Storm-Adriance-Brinkerhoff House on Beekman Rd. in East Fishkill.
2. Akin Free Library on Market St. in the Town of Pawling.
3. Oblong Friend Meeting House on Meetinghouse Rd. in the Town of Pawling.
4. John Kane House on East Main St. in the Village of Pawling.
5. Beekman Meeting House on Emans Rd. in LaGrange.
6. Oswego Meeting House and Cemetery on Oswego Rd. in Union Vale.

Transportation Needs

Based on a review of local comprehensive plans, previous Transportation Council studies, and transportation system data, the Transportation Council identified a series of transportation needs in the Lower Taconic. These needs were reviewed and revised at a Lower Taconic stakeholder meeting. The revised list of needs includes the following items:

Highway Maintenance

Multiple Municipalities

1. Inventory pavement conditions on local streets and repave based on condition ratings.

Reconstruct the following road segments rated as poor under NYSDOT standards:

1. Route 52 from Corporate Park Rd. to Fishkill town line in East Fishkill (0.4 miles).
2. Route 216 in the Town of Beekman (six miles).
3. Route 376/Route 82 overlap in Hopewell Junction (East Fishkill) (0.1 miles).
4. Taconic State Parkway from CR 9 (Beekman Rd.) to north of CR 52 (Carpenter Hill Rd.) in East Fishkill (1.5 miles both directions).
5. Repave Route 292 from Route 55 to CR 30 (Holmes Rd.) in Pawling (6 miles).
6. Old Route 55 in the Town of Pawling from Route 55 to the Village of Pawling line.

Bridge Maintenance

Bridges rated as structurally deficient under FHWA standards or deficient under NYSDOT standards should be repaired or closed if necessary, with replacement priority given to the following bridges:

1. Route 52 over Wicopee Creek (BIN 1026850) in East Fishkill.
2. Route 82 over the Metro-North Railroad Maybrook Line (BIN 1032300) in Hopewell Junction (East Fishkill).
3. CR 21 (Noxon Rd.) over Jackson Creek (BIN 3343270) in LaGrange.
4. CR 21 (E. Noxon Rd.) over Jackson Creek (BIN 3370340) in LaGrange.
5. CR 21 (Bruzgal Rd.) over Fishkill Creek (BIN 3343920) in Union Vale.
6. CR 21 (Bruzgal Rd.) over Fishkill Creek (BIN 3343930) in Union Vale.
7. CR 43 (Degarmo Rd.) over Wappinger Creek (BIN 3358440) in LaGrange (Poughkeepsie town line).

8. Lime Kiln Rd. over I-84 (BIN 1032550) in East Fishkill.
9. Philips Rd. over Fishkill Creek (BIN 3343110) in East Fishkill.
10. West Main St. over Pawling Creek (BIN 2223040) in the Village of Pawling.

Based on available funding, the following low-volume, structurally deficient or NYSDOT deficient bridges should be repaired or closed:

1. Stormville Rd. over Fishkill Creek (BIN 3343100) in East Fishkill (rated as rated structurally deficient, with a 2014 AADT of 200)
2. Freedom Park Entrance Rd. over Sprout Creek (BIN 2262870) in LaGrange (NYSDOT rating of 3.6, with a 2009 AADT of 80).

Traffic Operations

Multiple Municipalities

1. Limit the number of access points on state and county roads and require new commercial developments to share driveways and to internally link circulation or service roads between adjacent parcels.

Town of Beekman

1. Add left turn lanes on Route 55 at CR 9 (Beekman Rd.), both eastbound and westbound, to improve traffic operations.
2. In conjunction with implementation of the Beekman Town-Center District Official Map, and future mixed-use/commercial developments, explore the feasibility of a roundabout on Route 55 at CR 9 (Beekman Rd.). Future improvements should include appropriate sidewalks, traffic calming measures (e.g. bump outs), signage, and lighting on Route 55.
3. Address traffic issues on CR 7 (Beekman-Poughquag Rd.) during special events.

Town of East Fishkill

1. Redesign Route 82 in Hopewell Junction into a boulevard, to include possible roundabouts at the Route 82/376, Route 82/Unity Plaza and Route 82/Trinka Ln. intersections. In the interim, better coordinate traffic signal timings on Route 82/376 in Hopewell Junction.
2. Reconstruct the intersection of Route 376/Robinson Ln./Lake Walton Rd., to include consideration of a new roundabout along with pedestrian improvements.
3. Install a right-turn lane on Route 52 westbound at the Route 376 intersection.

Town & Village of Pawling

1. Modify the intersection of CR 20 (West Dover Rd.) and Lakeside Park in the Town of Pawling, by creating a standard “T” intersection.

Safety

Town of Beekman

1. Add turn lanes on Route 55 at the Gardner Hollow Rd. intersection.
2. Vertically and horizontally realign CR 9 (Beekman Rd.) from Route 55 to the Taconic State Parkway to improve

safety. In the interim, implement the following short-range recommendations from the CR 9 (Beekman Rd.) Safety Assessment:

- Increase speed enforcement by the Dutchess County Sheriff's Office.
- Install shoulder backup material, and where possible, widen shoulders to four feet.
- Improve drainage at the CR 7 (Beekman-Poughquag Rd.) by removing existing ditch and redirecting run-off to adjacent drainage facilities. Replace ditch with a shallower asphalt swale or concrete gutter.
- Narrow the westbound CR 7 (Beekman-Poughquag Rd.) approach to CR 9 (Beekman Rd.).
- Replace and/or install new guide rail.
- Trim and/or remove existing vegetation away from sight lines and traffic control devices.
- Install stop lines on all approaches to CR 9 (Beekman Rd.), using the NYSDOT recommended standard width of 18 inches.
- Relocate curve warning signs and post advisory speed plaques between Walker Rd. and Limbach Rd.
- Install a left turn pocket on westbound CR 9 (Beekman Rd.) at the Recreation Rd. intersection.
- Reduce the speed limit on CR 9 (Beekman Rd.) from the Taconic State Parkway to Route 55.

3. Increase enforcement of the "no left turn" restriction from Route 55 northbound into the Stop & Shop supermarket.

Town of East Fishkill

1. Install warning devices on Routes 82, Lake Walton Rd. and Route 376 to alert drivers of pedestrians. Also install warning devices at WRS Dutchess Rail Trail crossings.
2. Install deceleration and acceleration lanes from Carpenter Rd. onto the Taconic State Parkway (northbound and southbound).
3. Reconfigure the Route 376/Clove Branch Rd./Hillside Lake Rd. intersection to improve sight distances.
4. Realign Route 376 in Hopewell Junction to eliminate the two 90-degree curves at Railroad Ave. and near Oak St.

Town of LaGrange

1. Install left turning lanes on Route 82 at the Route 55 intersection.

Town & Village of Pawling

1. Evaluate ways to improve safety at the Route 22/Route 55 interchange; possibly lengthening acceleration lanes, improving sight distance, and adding signage.
2. Explore ways to improve safety at key intersections, including Route 22 at Coulter Ave. and Main St., and along West and East Main St. (Village of Pawling), and Aikendale Rd. and Dutcher Ave. at Route 55.

Town of Union Vale

1. Evaluate the possibility of extending the 45 mile per hour speed limit on Route 82 (currently between North Clove Rd. and Camby Rd.) through the hamlet of Verbank to Milewood Rd./Verbank Village Rd. or further south.

2. Realign the Route 55/CR 21 (Bruzgul Rd.)/South Parliman Rd. intersection in the Town of Union Vale.

Transit

1. Promote demand response transit service to the Lower Taconic communities, especially for the elderly and disabled.
2. Expand DCPT Fixed Route service throughout Lower Taconic communities to include Sunday service.
3. Provide bus shelters at scheduled DCPT time-stops.
4. Promote tourism through special DCPT bus routes.

Sidewalks/Pedestrian Facilities (including ADA projects)

Town of Beekman

1. Promote and encourage a safe and contiguous system of sidewalks, bike trails and pathways throughout the Beekman town center, and connect the town center to the Town Recreation Center.
2. Improve pedestrian crossings at intersections, especially at the Route 55/CR 9 (Beekman Rd.) intersection.
3. Consider adding a pedestrian warning sign on CR 9 (Beekman Rd.) by St. Denis Church to slow approaching traffic.

Town of East Fishkill

1. Repair State-owned, non-ADA compliant sidewalks and ramps on Route 376 in Hopewell Junction.
2. In Hopewell Junction, install sidewalks and fill sidewalk gaps on Route 376 between the Dutchess Rail Trail and the Hopewell recreation center, Town library and Town Hall.
3. Install sidewalks on the south side of Route 82 from Route 376 west to Trinka Ln.; install crosswalks across Route 82 and 376 at major intersections, along with signage, flashing beacons, or other warning devices as needed; provide a paved path between the Unity Plaza shopping center and the Hopewell Glen housing development on Fishkill Rd., using the existing trail behind the plaza.
4. Add a sidewalk, path or trail between the Dutchess Rail Trail and Red Wing Town Park, along Route 82 and Old Farm Rd.
5. Evaluate the feasibility of installing a sidewalk and crosswalks on Route 376 between the Dutchess Rail Trail and Van Wyck Junior H.S. Incorporate sidewalks and pedestrian crossings into planned improvements at the Route 376/Lake Walton Rd./Robinson Ln. intersection.
6. Provide a wider shoulder (four foot minimum) and consider a sidewalk on Lake Walton Rd. between the Dutchess Rail Trail and Route 376. Extend wider shoulders south of the rail trail on Lake Walton Rd. where feasible.

Town of LaGrange

1. In the LaGrange town center, fill in sidewalk gaps on the south side of Route 55 to connect the businesses around Freedom Rd. to Stringham Rd.; install sidewalks on Regnault Ln. (in front of Arlington High School) between the school entrance and Dr. Fink Rd., and on Dr. Fink Rd. between Regnault Ln. and Freedom Rd.; extend the sidewalk on Stringham Rd. south to connect the Hannaford supermarket to LaGrange M.S. and Stringham Park.

Town of Pawling

1. Evaluate the feasibility of installing sidewalks or walking paths along Route 292 and CR 30 (Holmes Rd.) within about a half-mile of the Route 292/CR 30 intersection, and increase shoulder widths where possible.
2. Provide pedestrian access to the Pawling Middle and High schools: install a sidewalk on Reservoir Rd. between Route 22 and the schools at Wagner Dr.; extend the sidewalk along Wagner Dr. to connect to the existing sidewalks at the schools' entrances; mark a crosswalk across Wagner Dr. at Reservoir Rd. and across driveways on Wagner Dr. as needed; extend the existing sidewalk on the west side of Route 22 (which ends at the north boundary of the cemetery north of Coulter Ave.) to the pedestrian overpass and then to Reservoir Rd. along the east side of Route 22, or create a sidewalk on the east side of Route 22 between Coulter Ave. and Reservoir Rd.; and mark crosswalks at the Route 22/Reservoir Rd. intersection as needed to connect the sidewalks on Route 22 and Reservoir Rd.
3. In conjunction with the planned sewer extension project, construct sidewalks or a shared-use path along Route 22 between Quaker Hill Rd./East Main St. and the Hannaford grocery store at Akindale Rd., connecting to the senior housing at the Castagna development on Route 22, and designate crossings on Route 22 at East Main St./ CR 67 (Quaker Hill Rd.) with marked crosswalks and pedestrian signals.

Town of Union Vale

1. Mark a crosswalk across Flint Rd. to The Fountains senior living residence and provide appropriate pedestrian-related signage.
2. Consider a high-visibility crosswalk and/or other improvements to increase safety for people crossing Route 82 to Godfrey Park.

Village of Pawling

1. Add a pedestrian/bicycle connection via Main St. from Route 22 at Quaker Hill Rd. to the Pawling Train Station.
2. Install a sidewalk on Lakeside Dr., connecting the Pawling Village Center with Town parks and ballfields.

Multi-use Trails & Bicycle Facilities

1. Widen shoulders on Route 82 east of Hopewell Junction in East Fishkill, LaGrange, and Union Vale to a consistent four foot minimum, improve shoulder pavement quality, and consider signage and other bicycle safety improvements, particularly in Hopewell Junction.
2. Provide consistent wide shoulders (six feet where feasible) along Route 55 between Poughkeepsie and Pawling.
3. Widen shoulders on Route 376 in East Fishkill, between CR 29 (Hillside Lake Rd.) and Secor Ln., to a consistent four foot minimum, and improve road and shoulder maintenance, including pavement repair and brush clearing.
4. Widen shoulders on Route 22 in Pawling to provide safe access for bicycling, and install appropriate signage to encourage safe sharing of the road.

5. Add paved shoulders (four foot minimum) on CR 20 (West Dover Rd.) between the apartments off of Kings Way and the Pawling Village line.
6. Evaluate the feasibility of constructing a shared-use path (such as an elevated boardwalk) along CR 69 (Dutcher Ave.) between W. Main St. in the Village of Pawling and Route 55 in the Town of Pawling, and construct if feasible.
7. Work with MTA/Metro-North to create a rail trail along the former Maybrook rail line from Hopewell Junction through Beekman and Pawling to Putnam County, connecting the Dutchess Rail Trail to the Putnam County Trailway and the North County Trailway in Westchester.
8. Work with Putnam County to create a bicycle connection between the Putnam Trailway in Carmel/Brewster and the Harlem Valley Rail Trail via the Maybrook rail line and/or Route 312 and Route 22. Alternatively, create an on-road signed bicycle connection using Old Route 6, John Simpson Rd., Fair St., and Route 311 to Route 22.

Travel Demand Management

1. Promote employee-sponsored and privately arranged ride sharing opportunities in the Lower Taconic area.
2. Renovate and expand existing park-and-ride lots onCR 27 (Lime Kiln Rd.) near I-84, and Route 52 near the Taconic State Parkway. In addition, establish a second park-and-ride lot near the existing lot at the Taconic State Parkway and Route 52 in East Fishkill.

Planning Studies

1. Complete a sidewalk inventory and sidewalk improvement strategy for the Village of Pawling.
2. Analyze speed patterns on County and local roads, using speed data from the PDCTC's traffic count program. Identify corridors with high percentages of 'high-end' speeders (e.g., 10 mph or more over the posted speed limit) and develop engineering, enforcement, and educational approaches to reduce speeding.

Survey Summary

Of the more than 900 respondents to the *Moving Dutchess 2* survey, 114 were residents of Lower Taconic communities. This section summarizes their responses to the survey.

In terms of making Dutchess County a great place to live, Upper Taconic residents prioritized the protection of air and water quality, and preservation of natural areas, habitats, and farmland as the most important issues. Major issues related to driving identified by residents included the poor condition of roads and bridges; the lack of sidewalks and crosswalks; the poor condition of existing sidewalks, the lack of bicycle lanes and road shoulders, and the limited frequency of bus service.

When asked how well the transportation system meets your needs, the most common response was 'fair' (38 percent), followed by 'good' (28 percent and 'not good' (16 percent). When asked about the ease of getting places you usually have

to go, the most common response was 'good' (42 percent), followed by 'fair' (29 percent) and 'not good' (12 percent).

Over 96 percent of respondents sometimes or often walked for transportation; 81% sometimes or often used the train for transportation; 29 percent sometimes or often bicycled for transportation; and 21 percent sometimes or often used the bus for transportation.

Major barriers for walking included the distance to destinations (78 percent) and lack of sidewalks (63 percent); for bicycling, inadequate shoulders, bike lanes and paths (68 percent) and distance to destination (48 percent); for bus transit, the inability of the bus to go where they wanted (50 percent); and for train transit, the high cost (41 percent). The survey also indicated that 21 percent of Lower Taconic households had members who depended on transit or rides from others.

With regard to travel modes, the survey asked residents to recall their trips over the past week and categorize them based on their destination and mode (drive alone, carpool, walk, bike, bus or other). Based on responses from residents in the Lower Taconic, about 82 percent of trips were driven-alone; nine percent were by carpools; three percent were made by walking; three percent by bus; and two percent by biking. Most drive-alone trips were for work or school, followed by shopping, making appointments, and socializing/recreation; most walk trips were for socializing or recreation, followed by work/school; most carpool trips were for socializing or recreation; most bus trips were for work or school; and most bike trips were for socializing or recreation.

Only 35 percent of respondents from the Lower Taconic indicated that they had not travelled outside Dutchess County in the preceding month. Of those that had, the majority travelled to either Putnam or Westchester County (65 and 64 percent respectively), or Connecticut (61 percent).

To reduce congestion, 39 percent of residents recommended improving public transportation followed by 30 percent in support of more highway capacity and 20 percent for creating communities that were less reliant on driving. 96 percent of residents felt that highway congestion was a current or emerging problem in the Lower Taconic, closely matched by 93 percent who felt that the condition of roads was also a current or emerging problem.

Reference future land use, 81 percent of respondents thought that most development should be within cities, town centers, and villages using vacant or underutilized land. There was similarly strong support (77 percent) for closely-spaced housing and buildings with sidewalks, even if that meant smaller homes and yards and less parking. Over 65 percent of respondents said that infrastructure and services should be expanded primarily in and around existing town and village centers.

Residents' top three investment priorities for the next 5-10 years were maintaining roads, improving roads, and transportation services for seniors and disabled persons.

When asked what they would support with tax dollars, residents said walking and bicycling improvements (48 percent), followed by curb-to-curb bus services for seniors and disabled persons (40 percent). 89 percent of respondents opposed or strongly opposed any property tax increase to fund transportation improvements; however, 45 percent supported increasing vehicle registration fees or increased tolls as possible funding mechanisms.

About 78 percent of Lower Taconic households used two or more cars on a daily basis, while 22 percent used one car. None of the respondents reported not using a car on a daily basis. Most residents (59 percent) who commuted to work lived within 6-20 miles of their job.

Demographics: Most respondents lived in the Town of LaGrange (34 percent) and Town of East Fishkill (31 percent). Others lived the towns of Beekman (12 percent), Pawling (12 percent), and Union Vale (eight percent). 48 percent were aged 45-64, 27 percent aged 65 and over, 19 percent aged 25-44, and six percent under 24. 53 percent of respondents were female, and 47 percent male.

A number of respondents provided direct comments about transportation conditions and issues. Many of these comments related to the need to identify other funding mechanism besides taxes to maintain the system. Some noted the benefits of roundabouts at congested intersections, the need for better shoulders for bicycling, new sidewalks to promote walking, and more regular bus service.

Transportation Priorities

Based on discussions of the above needs with stakeholders, the following top priorities were identified:

Highway Maintenance

<u>Multiple Municipalities</u>

1. Inventory pavement conditions on local streets and repave based on condition ratings.

Reconstruct the following road segments rated as poor under NYSDOT standards:

1. Route 52 from Corporate Park Rd. to Fishkill town line in East Fishkill (0.4 miles).
2. Route 216 in the Town of Beekman (six miles).
3. Route 376/Route 82 overlap in Hopewell Junction (East Fishkill) (0.1 miles).
4. Taconic State Parkway from CR 9 (Beekman Rd.) to north of CR 52 (Carpenter Hill Rd.) in East Fishkill (1.5 miles both directions).
5. Repave Route 292 from Route 55 to CR 30 (Holmes Rd.) in Pawling (6 miles).
6. Old Route 55 in the Town of Pawling from Route 55 to the Village of Pawling line.

Inventory pavement conditions on local streets and repave based on condition ratings.

Bridge Maintenance

Bridges rated as structurally deficient under FHWA standards or deficient under NYSDOT standards should be repaired or closed if necessary, with replacement priority given to the following bridges:

1. Route 52 over Wicopee Creek (BIN 1026850) in East Fishkill.
2. Route 82 over the Metro-North Railroad Maybrook Line (BIN 1032300) in Hopewell Junction (East Fishkill).
3. CR 21 (Noxon Rd.) over Jackson Creek (BIN 3343270) in LaGrange.
4. CR 21 (E. Noxon Rd.) over Jackson Creek (BIN 3370340) in LaGrange.
5. CR 21 (Bruzgal Rd.) over Fishkill Creek (BIN 3343920) in Union Vale.
6. CR 21 (Bruzgal Rd.) over Fishkill Creek (BIN 3343930) in Union Vale.
7. CR 43 (Degarmo Rd.) over Wappinger Creek (BIN 3358440) in LaGrange (Poughkeepsie town line).
8. Lime Kiln Rd. over I-84 (BIN 1032550) in East Fishkill.
9. Philips Rd. over Fishkill Creek (BIN 3343110) in East Fishkill.
10. West Main St. over Pawling Creek (BIN 2223040) in the Village of Pawling.

Traffic Operations

1. Limit the number of access points on state and county roads and require new commercial developments to share driveways and to internally link circulation or service roads between adjacent parcels.
2. Implement the Beekman Town-Center District Official Map, which identifies new roads and access roads with crossroad connections. Also consider installing sidewalks and traffic calming measures such as bump-outs, and signage, along with mixed-use development and community space, as described in the Town's Comprehensive Plan.
3. Redesign Route 376 in Hopewell Junction (East Fishkill) into a boulevard and explore the possibility of installing roundabouts at the Route 82/376 intersection, Route 82/Unity Plaza entrance, and Route 82/Trinka Ln. intersections. In the meantime, better coordinate traffic signal timings on Route 82 to reduce traffic congestion in Hopewell Junction.
4. Reconstruct the intersection of Route 376/Robinson Ln./Lake Walton Rd. in East Fishkill, to include consideration of a new roundabout and pedestrian improvements.
5. Install a right-turn lane on Route 52 westbound at the Route 376 intersection in East Fishkill.
6. Add left turn lanes on Route 55 at CR 9 (Beekman Rd.), both eastbound and westbound, to improve through capacity and safety.

Safety

1. Add turn lanes at the Route 55/Gardner Hollow Rd. intersection in Beekman to improve safety.
2. Vertically and horizontally realign CR 9 (Beekman Rd.) from Route 55 to the Taconic State Parkway to improve safety. In the interim, implement short-range

recommendations from the CR 9 (Beekman Rd.) Safety Assessment.
3. Improve sight distance, improve shoulders, and make other safety improvements, including possibly reconfiguring the Route 376/Clove Branch Rd./Hillside Lake Rd. intersection in East Fishkill.
4. Realign the Route 55/CR 21 (Bruzgul Rd.)/South Parliman Rd. intersection in the Town of Union Vale.
5. Install left turning lanes on Route 82 at the Route 55 intersection in the Town of LaGrange.

Transit

1. Promote demand response transit services to the Lower Taconic communities, especially for the elderly and disabled.
2. Expand DCPT Fixed Route service throughout Lower Taconic communities.
3. Provide bus shelters at scheduled DCPT time-stops.

Sidewalks/Pedestrian Facilities (including ADA projects)

1. Repair State-owned, non-ADA compliant sidewalks and ramps on Route 376 in Hopewell Junction.
2. In Hopewell Junction (East Fishkill), install sidewalks and fill sidewalk gaps on Route 376 between the Dutchess Rail Trail and the Hopewell recreation center, Town library, and Town Hall, and extend to the Hopewell Garden apartments and Gayhead Elementary School entrance; install sidewalks on the south side of Route 82 from Route 376 west to Trinka Ln.; install crosswalks across Route 82 and 376 at major intersections, along with signage, flashing beacons, or other warning devices as needed; provide a paved path between the Unity Plaza shopping center and the Hopewell Glen housing development on Fishkill Rd., using the existing trail behind the plaza.
3. In the LaGrange town center, fill in sidewalk gaps on the south side of Route 55 to connect the businesses around Freedom Rd. to Stringham Rd.; install sidewalks on Regnault Ln. (in front of Arlington High School) between the school entrance and Dr. Fink Rd., and on Dr. Fink Rd. between Regnault Ln. and Freedom Rd.; extend the sidewalk on Stringham Rd. south to LaGrange M.S.
4. In conjunction with a planned sewer extension project, construct sidewalks or a shared-use path along Route 22 between Quaker Hill Rd./East Main St. and the Hannaford grocery store at Akindale Rd. in the Town of Pawling, connecting to the senior housing at the Castagna development on Route 22, and designate crossings on Route 22 at East Main St./CR 67 (Quaker Hill Rd.) with marked crosswalks and pedestrian signals.

Multi-use Trails & Bicycle Facilities

1. Widen shoulders on Route 82 east of Hopewell Junction in East Fishkill, LaGrange, and Union Vale to a consistent four foot minimum, improve shoulder pavement quality, and consider signage and other bicycle safety improvements, particularly in Hopewell Junction.
2. Provide consistent wide shoulders (four feet) along Route 55 between Poughkeepsie and Pawling.
3. Widen shoulders on Route 376 in East Fishkill, between CR 29 (Hillside Lake Rd.) and Secor Ln., to a consistent four

foot minimum, and improve road and shoulder maintenance, including pavement repair and brush clearing.
4. Widen shoulders on Route 22 in Pawling to provide safe access for bicycling, and install appropriate signage to encourage safe sharing of the road.
5. Add paved shoulders (four foot minimum) on CR 20 (West Dover Rd.) between the apartments off of Kings Way and the Pawling Village line.

Travel Demand Management

1. Establish a second park-and-ride lot near the existing lot at the Taconic State Parkway and Route 52.
2. Promote employee-sponsored and privately arranged ride sharing programs.

Planning Studies

1. Complete a sidewalk inventory and sidewalk improvement strategy for the Village of Pawling.
2. Analyze speed patterns on County and local roads, using speed data from the PDCTC's traffic count program. Identify corridors with high percentages of 'high-end' speeders (e.g., 10 mph or more over the posted speed limit) and develop engineering, enforcement, and educational approaches to reduce speeding.