Transportation

This chapter describes the transportation system. It identifies deficiencies within the transportation facilities serving Readfield and provides general recommendations for meeting the existing and future needs for those facilities.

Readfield's Highway System:

There are approximately 47 miles of public roadway in Readfield. Four roadways are state maintained including Route 17, Route 41, Route 135 (State Aid), and the North Road (State Aid) for a total of 18.37 miles.

State Highways:

The Maine Department of Transportation (MDOT) classifies roads by the role they serve in the overall transportation network. The principal classifications are:

Arterials: These are the most important travel routes in the state. Arterial roads are designated for their capacity to carry large volumes of traffic efficiently between commercial or service centers. The DOT has restrictive access standards on arterial roads to preserve this mobility function. These highways generally carry a federal route number designation, such as U.S. 202. There are no arterials in Readfield.

Collectors: These are the roads that collect and distribute traffic from areas of lower population density onto arterials and service centers. Collectors are further divided into "major" and "minor," depending on the proportions of federal, state and local money available for maintenance and improvements. In Readfield Routes 17, 41, and 135 are Major Collectors and North Road is a Minor Collector.

State highways are generally maintained by the MDOT except that towns are responsible for winter maintenance on State Aid roads (North Road, etc.). Maintenance and improvement projects done by MDOT are programmed into the state budget through a Biennial Transportation Improvement Program (BTIP). This program outlines transportation projects (including non-road projects) that have been funded with a combination of federal and state funds.

Traffic Volumes:

The volume of traffic is a measure of the intensity of road use and the potential for traffic delays, congestion or unsafe conditions. Traffic volumes are also used by economic developers to determine the potential customer base. Historic traffic count data (measured in Average Annual Daily Traffic, equivalent to vehicles per day) is compiled by MDOT for state roads in a number of locations throughout Readfield.

TABLE 1: AVERAGE ANNUAL DAILY TRAFFIC COUNT

Location	2014	2017	2019*	Percent Change
SR 17 / 41 (Main St.) SE/O SR 41 (Chimney Road)	2,920			
SR 17/41 (Main St.) W/O SR 41 (Winthrop Road)	3,610	3,650		1.1%
SR 41 (Chimney RD) NW/O SR 17 (Main St.)	1,090	1,200		10.1 %
SR 41 (Winthrop Rd) @ Winthrop TL	1,130	1,150		1.8 %
SR 41 (Winthrop Rd) S/O SR 17 (Main St.)	1,300	1,610		23.8 %
Church Rd. N/O Chase Rd.		550		
Church Rd. N/O SR 17 (Main St.)	1,060	1,150		8.5%
Church Rd. NW/O Fogg Rd		760		
Beaver Dam Rd NW/O IR 341		400		
Beaver Dam Rd SE/O IR 341 (Memorial)		310		
Sturtevant Hill Rd. S/O SR 17/41		710		
Fogg Rd. NE/O Church Rd.		290		
Old Kents Hill NW/O SR 17/41	350	440		25.7 %
North Rd. N/O SR 17 (Main St.)	1,370	1,180		-13.9 %
North Rd. N/O Wings Mills	690	640		-7.2 %
South Rd. SW/O SR 17 (Main St.)	550	540		-1.8 %
Plains Rd. N/O SR 17 (Main St.)		670		
Memorial S/O Beaver Dam		280		
Wings Mills Rd. NE/O North Rd.	510	380		-25.5 %
SR 135 (Gorden Rd.) N/O SR 17 (Main St.)	970	1,050		8.2 %
SR 135 (Stanley Rd.) SW/O SR 17 (Main St.)	820	980		19.5 %
SR 17 (Main St.) E/O SR 41 (Winthrop Rd.)	4,690	4,610		-1.7 %
SR 17 (Main St.) NW/O North Rd.		4,740		
SR 17 (Main St.) NW/O SR 135 (Stanley Rd.)	4,980	5,240		5.2 %
SR 17 (Main St.) W/O Chimney Rd.	2,380	2,570		8.0 %
SR 17 (Main St.) NW/O South Rd. @ RR Xing	5,170	5,400		4.4 %
SR 17/135 (Main St.) E/O Plains Rd.	5,560	5,900		6.1 %
SR 17/41 (Main St.) NW/O IR 2183		3,460		

Source: Maine DOT Traffic Volume annual report, 2019

^{*2019} is the most recent data available.

KEY FOR TABLE 1:

SW/O= southwest on NE/O= northeast on SR= state route SE/O= southeast on N/O= north on R= inventory road

S/O= south on W/O= west on NW/O= northwest on E/O= east on

Annual traffic count data for 2019 was not available for Readfield. State Routes 17 and 41 clearly carry the most traffic, based on date in Table 1. This is no surprise as they are connecting roads to more populated areas; however, it is surprising to see that the traffic volumes have not increased considerably, In fact, in some cases, they have decreased, such as on North Road north on State Route 17. From 2014 to 2017, there was a decrease of traffic on this road by 13.9 percent.

Part of the declining traffic counts could be attributed to the fairly stable or stagnant economic conditions from 2015 – 2018, combined with the aging and decreasing local populations. Most of the traffic along this route is daily commuters, combined with weekend recreation and tourism activities. Readfield did not see a large increase in population during this time period. Once data is available for 2020-2021, showing the impacts of the Covid-19 health crisis, there will likely be a more drastic decrease in traffic counts.

Traffic Safety:

A critical element in management of the transportation system is the safe movement of traffic. Records are kept of vehicle accidents and areas along the highway system are denoted as High Crash Locations (HCL). MDOT defines an HCL as a roadway intersection or segment, which experiences 8 or more accidents in a 3-year period and has a Critical Rate Factor (CRF) in excess of 1.00. The CRF is a measure of the actual number of accidents compared to the theoretical accident experience that would normally be expected in that situation.

On Route 17 (and within Readfield), the only HCL is the intersection at Readfield Corner. Speed and the lack of sight distance (ability to see other vehicles approaching the intersection) are the most probable factors in this rating. The problems at this intersection have been documented in the *Readfield Corner Revitalization Study*, which recommended traffic calming practices. Additional parking was added to the area but has actually reduced safety and sight distances in some cases. Parking spaces in front of the Masonic Hall are will be removed in the future and replaced with a short section of sidewalk. For the remaining parking spaces, time restrictions are to be implemented.

Meeting both of these criteria on many rural roads in Readfield would be difficult – because of the lack of traffic, a high CRF may not be statistically valid. But that means there may be some curves or intersections that are dangerous without being identified as an HCL. The only such intersection identified to date is the junction of Tallwood Drive and Beaver Dam Road with the apparent solution involving redesign of the intersection.

A number of traffic studies were performed between 2015 and 2020 in response to citizen concerns about speeding and unsafe traffic patterns. While traffic speeds have been increasing, crash data has not supported a reduction in speed limits. Study results based on the "80th percentile" model indicated that speed limits should either be kept the same or increased. In all cases, the town opted to leave the existing speed limits in place.

Roadway Characteristics and Traffic Control Devices:

The Town of Readfield is committed to using the standard federally established traffic control practices and devices identified in the Manual on Uniform Traffic Control Devices (MUTCD), as amended.

The one, 4-way blinking light at the intersection of Route 17 and Route 41 at Readfield Corners is the only signalized intersection in Readfield. Where needed, traffic is controlled by the presence of signs directing motorists to either stop or yield.

Consideration is being given to other forms of traffic control devices and traffic calming measures as speeds and volumes both increase.

The Highway System and Development:

Traffic counts and problem locations are symptoms of a much deeper issue: the relationship between highways and development. As highways are designed to serve the properties within their corridors, there comes a point at which development exceeds the capacity of a highway to serve it. This may result from development within the corridor or development in the immediate proximity of the road. Awareness of the link between transportation and land use is growing rapidly, especially among transportation system managers responsible for finding the millions of dollars it costs to expand capacity, and who would much prefer the relatively small cost of managing development instead.

The Maine DOT has established a set of regulations for new development impacting state highways. Traffic Movement Permits are required for major developments, such as shopping centers or large subdivisions. For all other development on state highways, driveway access permits are required. Permitting rules contain different standards based on road classification. Routes 17 and 41 have the tightest access rules; the remaining roads have relatively moderate rules. All of the rules have some standards for sight distance, driveway width, spacing, safety, and drainage.

The town requires a driveway permit through the Road Commissioner for the installation of new driveways. The criteria for permitting can be found in the Land Use Ordinance and also contains standards similar to those of the state.

There are a number of other ways in which the town can influence the impact of development on transportation. They include:

- Updating local road design and construction standards to reflect current practices.
- Offering different road design options based upon anticipated use and traffic volume.
- Rear lot access options to reduce road frontage development.
- Incorporating pedestrian and bicycle travel lanes into public roads and major developments.
- Proper design and location of major land use activities.
- Implementation of the ongoing road maintenance plan.

It has long been known that newly created subdivision roads that dead end without the possibility of future development or connection to other roads is poor planning practice. Luckily, Readfield does not have enough subdivisions for this problematic situation to be applicable.

Bridges:

Bridges (and large culverts) constitute a critical part of the transportation infrastructure. In general, bridges are owned and maintained by the state, even if on town roads, if they are longer than 15 feet. There are 8 bridges in Readfield, 3 of which are town owned. The bridges include:

- Beaver Dam Bridge (culvert) town owned and maintained.
- Woolen Mill Bridge over Mill Stream town owned and maintained (Gile Road –closed).
- Footbridge over Mill Stream town owned and maintained.
- Torsey Pond Bridge over Mill Stream town owned and maintained (Old Kents Hill Road).
- Handy Brook Bridge over Handy Brook state owned and maintained.
- Dead Stream Bridge over Dead Stream state owned and maintained.
- Intervale Bridge (Rt. 17) state owned and maintained.
- Mill Stream Bridge over Mill Stream State owned and maintained.

The Mill Stream Bridge was repaired, and the abutments and wing walls were partially resurfaced in 2018. Similar repairs were made to the Torsey Pond Bridge in 2021 in conjunction with a nearly complete rebuild of the dam there, which is contiguous with the bridge structure.

Local Roads

Local roads are the roads that serve primarily for access to adjacent land areas and usually carry low volumes of traffic. In Maine, these roads are the municipalities'

responsibility if they are town ways, or private responsibility if they are camp roads, logging roads or have not been dedicated and accepted by the Town.

Town Ways:

Readfield has 23.87 miles of road classified as town ways. Table 2 has a breakdown of these roads and conditions. Balsam drive was added as a town road in 2012. The acceptance of roads by the town is costly to taxpayers as it essentially obligates the town to perpetual maintenance.

TABLE 2: TOWN WAYS

	Γ		
Name	Right-of-Way	Length	Surface
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Scribner Hill Road	4 Rod	.80	Tar = .33
Balsam Drive	60 feet	.36	Tar
Plains Road	4 Rod	3.35	Tar
McKenney Road	3 Rod	.20	Gravel
Gay Road			
Ratt Mill Hill Road	4 Rod	.50	Gravel
Memorial Drive	4 Rod	.30	Gravel
Tallwood Drive	4 Rod	.25	Tar
TailWood Brive	4 Rod	.60	Tar = .40
Hunts Lane	0.0	4.0	Gravel = .20
Lakeview Drive	3 Rod	.13	Gravel
Adell Road	3 Rod	.30	Tar
	4 Rod	.25	<u>T</u> ar
Fogg Road Walker Road	3 Rod	1.20	Tar
	3 Rod	.75	Gravel
Sadie Dunn Road	4 Rod	.40	Tar
Chase Road	3 Rod	1.05	Tar
Mooer Road	3 Rod	.20	Tar
Thundercastle Road	3 Rod	1.20	Tar
Old Kents Hill Road	4 Rod	1.30	Tar
Russell Street	4 Rod	.38	Tar
Huntoon Lane	3 Rod	.21	Gravel
Grist Mill (Mill Stream) Road	3 Rod	.25	Gravel
Nickerson Hill Road	3 Rod	1.15	Tar
Morrill Road	3 Rod	.50	Tar
North Wayne Road	3 Rod	.75	Tar
Harmony Hills Road	4 Rod	.325	Tar
Recycle Road		.25	Tar
South Road	3 Rod	1.70	Tar
Beaver Dam Road	3 Rod	1.00	Tar
Church Road	4 Rod	2.15	Tar
Sturtevant Hill Road	4 Rod	2.15	Tar
Palmeter Ridge Road	3 Rod	.6	Tar/Gravel
Lane Road	3 Rod	.95	Tar
Gile Road	3 Rod	70	Tar
Luce Road	3 Rod	.20	Gravel
Wing's Mill Road	3 Rod	.50	Tar
Belz Road	2 Rod	0.9	Gravel

Source: Readfield Comprehensive Plan Committee

Road Totals:

Total Plowed Roads: 34.26 miles Total Town Roads: 29.81 miles State Aid Roads: 6.9 miles

Town Roads, Facilities, and Services:

The management of town ways is the responsibility of the Town Manager who is the appointed Road Commissioner. He or she is advised by the five-member Road Committee. The town updated and consolidated their road and related ordinances and policies into a single Public Ways, Traffic, and Parking Ordinance in 2019. This consolidation has made management of town roads and easements easier. Maintenance of town roads has been greatly enhanced by the development and use of a comprehensive Capital Investment and Paving Plan. Additionally, to alleviated unnecessary expenditure, Readfield makes every effort to cooperate and coordinate with the MaineDOT Work Plan to the greatest extent practicable.

The town's public works infrastructure consists of a salt shed, built in 1993, a 2016 Ford F-550 dump truck with plowing and sanding capabilities, and a 2020 GMC pickup truck. Most of the summer and winter maintenance is contracted out with the town acting as general contractor and a maintenance team of two full-time and variable part-time employees to coordinate and do light maintenance. The town contracts separately for winter salt.

Readfield plows a total of 34.26 miles of road. The cost of plowing and sanding for 1991-1992 was \$85,000. By 2004-2005 the cost had risen to \$167,050 and for 2007-08 the cost was 232,000 [Source: Town Report Warrant Article]. The cost in 2021-2022 had increased to \$337,000 and saw another dramatic increase in 2022-2023 to an estimated \$420,000.

Many roads in town were reconstructed between 2005 and 2010. The town currently utilizes and actively manages a complete road management plan as a component of the Capital Investment Plan. Every road is identified, and a resurfacing schedule is applied using current value installed costs for all inputs like asphalt, liquid asphalt binder, shoulder gravel, and base gravel. This gives a very clear picture of what roads are most likely in need of repair and the cost. Importantly, it also provides an annualized cost for investment in road work, whether in construction or reserve savings, that allows Readfield to budget for the full maintenance needs of their road system over time.

Other Roads:

Other roads include over 100 privately owned roads throughout town. The most common of these are camp roads. Camp roads generally provide access to waterfront properties and do not form a part of the public road network. These roads were named in the course of the Street Addressing Project (E-911). Other privately owned roads in Readfield include roads inside of approved subdivisions that have not been offered to or

accepted by the town. The public has a right-of-way over these roads, but the town of Readfield has no legal right or obligation to maintain them, including culvert replacement or snowplowing. The list of private ways in Readfield is shown in Table 6-3, including pre-E-911 names.

TABLE 3: NAMED PRIVATE WAYS

New Name	Prior Name	New Name	Prior Name
		Paradise Lane	Fireroad SH4
Barber Road	Barber Subdivision	Old County Lane	Fireroad SH5
Broadview Heights Drive	Broadview Heights Subdivision	Big Pines Lane	Fireroad T1
Menatoma Camp Road	Camp Menatoma Road	Greene's Way	Fireroad T2
Wildlife Drive	Fireroad B1	Torsey Shores Road	Fireroad TC3
Greeley Lane	Fireroad C2	Mountain View Lane	Fireroad TC5
Wilson Way	Fireroad C2A	Touisset Point	Fireroad W2
Bethany Lane	Fireroad CC2	Adelaide Lane	
Poole Road	Fireroad CH1	Chickadee Lane	Fireroad W3A
Kentwood Drive	Fireroad F1	Maranacook Shore Road	Fireroad W4
Grasshopper Road	Fireroad F2	Squirrel Hill Lane	Fireroad W4B
Hind's Way	Fireroad F3	Falling Pines Lane	Fireroad W4BC
Avery Lane	Fireroad F4	Morgan Lane	Fireroad W4C
Sunrise Lane	Fireroad FG5	Chandler Drive	Fireroad W4D
Roddy Lane	Fireroad H1	Macomber Road	Fireroad W5
Frost Lane	Fireroad H2	Mayo Road	Fireroad W6
Zarella Lane	Fireroad L1	Prosperity Lane	Fireroad W6A
KV Camp Road	Fireroad M3	Mildred Lane	Fireroad W8
Butman Boulevard	Fireroad M4	Woodham Drive	Fireroad W8A
Newton Road	Fireroad M5	Poulin Road	Fireroad W9
Coleman Lane	Fireroad M5A	Oak Shores Drive	Fireroad W9A
Mace's Cottage Road	Fireroad M6	Cove Road	Fireroad W10
Bean's Mills Road	Fireroad MV1	N. Campers Point Road	Fireroad W11B
Davies Lane	Fireroad MV2	Nobis Point Road	Fireroad W11C
Echo Lane	Fireroad MV2A	Brown Lane	Fireroad W11D
Cedar Lane	Fireroad MV2B	Whitcomb Drive	Fireroad WM2
Quiet harbor	Fireroad MV4	Dr. Ham Road	Girardin R-O-W
Tingley Brook Drive	Fireroad N2	Kirkwold Camp Road	Girl Scout Camp Road
Old Stage Road	Fireroad OKH1	Lovejoy Lane	Kentwood Drive Spur

New Name	Prior Name	New Name	Prior Name
Berry Road	Fireroad P3	Kents Hill School Road	Kents Hill School
	Fileloau F3	Kerits Hill School Road	Campus
Lucasville Lane	Fireroad P5	Marden Road	Marden Road
Pine Rest Cottage Road	Fireroad S1	Autumn Crest Lane	
Brann Drive	Fireroad S1A	Terrace Road	North Road Terrace Subdivision
Wit's End Road	Fireroad S2	Old Fairgrounds Road	Old Fairgrounds Road/Sulky Drive
Thorp Shores Road	Fireroad S3	Badger Lane	
Lazy Loon Road	Fireroad S4	Quarry Drive	St. Andre Subdivision
Colony Road	Fireroad S4A	Barred Owl Lane	
Packard Shores Road	Fireroad S5	Fiddlehead Farm Lane	
Edgecomb Drive		Ledge Hill Terrace	
Alice's Way		Ledgewood Drive	
Partridge Hollow Lane	Fireroad S6	Cherrywood Lane	Lakeside Orchard Road
Somers Drive	Fireroad SD1	Acadia Lane	
Bill Bourret Drive		Brainard Road	
Dragonfly Lane		Elmwood Terrace	
Fen Way		Garden Place	
Gravel Pit Road		Husky Drive	
Joy Fields Lane		Parks Lane	
Rodrigue Lane		Song Bird Lane	
Stonewall Drive		Sylvester Lane	
Liberty Road		White Birch Drive	
Maindelay Road		Meadowbrook Road	
Millard Harrison Drive		Wesleyan Road	
Alfond Drive		Zeppelin Lane	

Source: E-911 Road Listing

Readfield also has a history of roads that are no longer used. These roads may be either "discontinued," which is a closure by legislative act, or "abandoned," which is the non-use of a roadway for 30 years or more, or non-maintenance for a shorter period. Since 1965 when roads are discontinued, the public retains the right-of-way along the road. In these cases, it would be beneficial to identify retained rights-of-way for access and recreational development.

Other Transportation Facilities:

While roads for motorized vehicles remain an essential part of our transportation system, it is the intent of this Comprehensive Plan to highlight and encourage

alternative means of transportation. This is particularly true along the Rt. 17 corridor. Route 17 is Readfield's "Main Street", but it is increasingly seen as a dividing line in the community, which is not conducive to the kind of community character or village development for which the town strives.

Air Travel:

The Waterville and Augusta airports offer a limited number of commercial flights (passenger service from Augusta only) and provide access for private and corporate planes and small jets. Both airports are a 20–30-minute drive. The Portland International Jetport and the Bangor International Airport offer commercial passenger service to a number of different hubs, both about an hour away. The Manchester-Boston Regional Airport in New Hampshire offers a popular alternative to Boston's Logan Airport.

Railroad:

The main railroad line passes north/south through the central and eastern portions of Readfield. Railroad crossing warning signals (without cross bars) are located at the Depot on Route 17 and at the crossing on Plains Road. The tracks also cross several camp roads in town with no signal lights. The Maine Central Railroad ended passenger service in Readfield in 1949. A portion of the line is double tracked north of the Depot, but there are no sidings, or local rail users shipping or receiving freight in town. However, trains continue to run through Readfield on an infrequent basis.

Readfield's one-time train depot lives on only in the memories of the town's older citizens, the antique postcards in the Historical Society and as a place name in town.

Public Transportation:

There are no public transportation services available in town. The Kennebec Valley Community Action Program (KVCAP) has a demand-response service and volunteer drivers to pick up and deliver people to various locations. There are no regularly scheduled routes or pick-ups. In recent years, a regional "Neighbors Driving Neighbors" program has been developed and operates in Readfield and neighboring towns. In 2022 the town successfully joined this organization through the efforts of Readfield's Age Friendly Committee.

Bicycle Routes and Facilities:

The 1991 Route 17 roadway improvement project added sufficient shoulder width for a bicycle lane from the Depot to Maranacook School. Periodic improvements to other portions of Route 17 have provided sufficient shoulder width for safe travel by bike. There are no other facilities dedicated for bicycles in town. MDOT publishes maps of bicycle routes, but none pass through Readfield.

In light of the increased popularity of bicycling, both for recreation and travel, the town should pursue more aggressive development of bike routes. Ideally, newly implemented bike routes would connect destinations of particular importance such as the Town Beach, Community School and Elementary School, and the bike corridors would be stand alone, not just extensions of highway shoulders.

Sidewalks:

In 2011-2012 an extensive sidewalk was built on the north side of Rt. 17 running from the intersection with Old Kents Hill Road by the Town Office, to the intersection with Millard Harrison Drive, and then up that road to the Middle and High Schools. The project was funded in part through a federal Safe Routes to School program and in part through tax dollars. The sidewalk sees extensive use and is an extraordinary asset for the area. An expansion of the existing sidewalk is planned from the intersection of Rt. 17 and Church Road to the Fairgrounds area. This will allow for a much safer travel path from Main Street to Readfield's primary recreational area.

A privately owned and maintained sidewalk exists at the top of Kents Hill running along the southwest side of Rt. 17 from the Kents Hill School campus to just before P Ridge Road.

Parking:

There are no major publicly owned parking facilities in Readfield including park-and-ride facilities. The town has an ordinance limiting on-street parking at Readfield Corner. Parking at the Town Office and Elementary School sometimes overflows from the parking lots. Parking at the Readfield Fairgrounds property has been expanded over the years to include close to 90 parking spaces in the gravel lot, with additional grass parking available in the adjacent field.

The lack of available parking at the Corner creates a disincentive to new development and public use of existing facilities. Limited on-street parking is poorly laid out and the only off-street site (behind the post office) is disorganized. New options for parking were addressed in the 2004 Readfield Corner Revitalization Study, but additional steps will have to be taken to achieve any significant growth.

While Readfield has a Parking Ordinance, it does not discourage development. It utilizes the standard limitations and requirements for parking. The Land Use Ordinance also has criteria for minimum number of spaces for various land uses.

Summary of Analysis:

In past planning efforts citizens have raised three principal issues: road condition, traffic flow and roadside beauty. Some people wanted the condition of both town and state roads improved. At the same time, many people did not want to encourage speeding. There was also wide support for improving traffic flow particularly in the Readfield

Corner area. Finally, the public has recognized road corridors as important and sensitive because of their heavy use. There was support for identification of scenic areas and better safeguards from activities that diminish roadside beauty.

Since 1980 traffic growth on major roadways in Readfield has averaged three to four percent per year. The highest growth in volume has occurred on Route 17 while traffic has doubled on portions of Routes 135 and 41. Readfield Corner is the only high crash location identified by MDOT. Increasing traffic volumes combined with continuing development along these roadways create the potential for future problems.

There is a shortage of alternatives and options for transportation to and around Readfield. Continued reliance on automobiles, together with sprawl, will eventually make travel on Readfield's rural roads very unpleasant. While public transit and passenger rail service are clearly economically unfeasible, Readfield should advocate for greater investments in bicycle and pedestrian facilities, carpooling and other creative solutions.

With increased transportation costs and more commuters to Augusta (and other regional destinations including Winthrop and Farmington), alternate modes of transport will become more attractive. Busses and rail will not become feasible for the foreseeable future. Perhaps the most likely short-term solution would be a ride-sharing program with a park-and-ride lot located at a convenient location on or near Rt. 17.