

## Chapter 4- Transportation

### Introduction

Transportation and land use are deeply connected, and both play a major role in establishing the Town's character. Informed and thoughtful planning of the transportation network will help guide future development to enhance and preserve valued features of the community, while supporting longer term community goals. A safe, accessible, and well-planned transportation network can help ensure the mobility of people and goods, enhance economic prosperity, and preserve the quality of life for the residents of Baldwin.

Development in Baldwin has historically concentrated around the east and west villages, along the Mountain Division Rail line, and along the major state routes, Route 113 (Pequawket Trail), and Route 107 (Bridgton Road).

This transportation chapter provides the information necessary to develop a plan of action for Baldwin's future transportation system. Sources include local knowledge and surveys, data provided by the Maine Department of Transportation (MDOT), the Southern Maine Regional Planning & Development Commission (SMRPDC), and the U.S. Census Bureau.

### Roadway Network and Classifications

Baldwin's transportation network consists of approximately 56.8 miles of public roadways, including State Routes 5, 107, 113, and 117. The majority of Baldwin's roads are local roads, providing access to state highways and service roads for adjacent property owners that accommodate little or no through traffic.

This section provides detailed information on the Town's roadway network. It includes a description of the classification systems that determine maintenance and construction responsibilities, as well as funding eligibility.

#### State Classification

In the early 1980s, the Maine Legislature authorized and directed MaineDOT to classify all public roads throughout the State. The basis of this classification system was that primarily regional or statewide needs should be the State's responsibility and roads serving primarily local needs should be of local responsibility.

The State's classification system includes the following:

- State Highways form a system of connected routes throughout the state that primarily serve intra- and interstate traffic. The State is responsible for all construction/reconstruction and maintenance on the 14.42 miles of arterial highways in Baldwin. Route 5 and Route 113 are State Highways.
- State Aid Highways connect local roads to the State Highway System and generally serve intracounty rather than intrastate traffic movement. State aid roads are typically maintained by MaineDOT in the summer and by the municipalities in the winter pursuant to [State Law 23](#)

[MRSA 1003](#) . The State Aid Highway category generally corresponds with the federal ‘collector’ classification. State Aid Highways include Route 11, and Route 107, and Sebago Road, totaling 6.3 miles.

- Town ways are all other highways not included in the State Highway or State Aid Highway classifications that are maintained by municipalities or counties. These roads are classified as federal ‘local’ roads. There are approximately 40.6 miles of local roads in Baldwin, which includes 6.3 miles of summer townways.

### Federal Functional Classification

In addition to the State classification system, there is the Federal Functional Classification system. The federal system complements the State’s system and is based on the type of service that is intended to be provided by the roadway. The federal classifications relate to traffic capacity and volume attributed to the roads and are divided into rural and urban systems. While state classification designates maintenance jurisdiction, federal functional classification creates a hierarchy of roads and determines which roads are eligible for Federal highway funds.

There are three functional classes represented in Baldwin as described below:

- Minor Arterials link and support the principal arterial system. Minor arterials are roads that place a greater emphasis on land access than the principal arterial and therefore offer a lower level of mobility. They serve as links between larger and smaller towns or as connections between collectors and the primary arterials.
- Major Collectors differ from arterial roadways due to size and general service area. Collectors serve traffic in a specific area, whereas arterials generally serve traffic moving through an area. Thus, average trip lengths on collectors are shorter than trips on arterials. Furthermore, collectors gather traffic from local roads and streets and distribute them to the arterial.
- Local Roads serve primarily to provide access to residential areas. They are designed for low-speed travel and to carry low volumes of traffic relatively short distances. Local roads are generally not eligible for federal aid funding for improvements or maintenance.

A road's functional classification is one factor in planning for possible growth into rural areas and for the future development of the town overall. Local streets are best suited for village/residential or very low-density rural development. While some commercial and other non-residential development might be an appropriate land use along collectors, it is important that such development be designed so that it minimally disrupts traffic flow.

Design choices for highway projects also typically depend upon the roadway’s functional classification. For example, arterials—which service primarily through traffic and often carry heavy vehicles – will typically have thicker pavement, wider lanes and shoulders, increased sight distance, minimal horizontal and vertical curves, and limited access points or curb cuts. Local roads tend to be narrower, windier, and more accessible from abutting property.

### Bridges

Bridges are a key component of the highway system. Bridges are the most expensive sections of roads, and a lack of adequate bridges can create transportation bottlenecks. MaineDOT inspects all bridges and culverts with a clear span of greater than 10 feet on public ways, regardless of ownership, every two

years. Inspection reports are available online and include detailed information on all aspects of the structure which can be used to plan for preservation, rehabilitation, and reconstruction.

Bridge condition can be measured based on the National Bridge Inventory Federal Sufficiency Rating (FSR). Each FSR has a numeric indicator of the overall value of the sufficiency of the bridge. A rating will be from 0-100 (0 indicates the worse and 100 indicates the best). FSR is computed with a federally supplied formula using an array of condition and inventory data. The formula is used to identify bridges eligible for federal funding. The FSR includes both structural deficiencies as well as functional obsolescence. This rating gives an overall value of the sufficiency of the bridge. Since functional obsolescence (i.e. too narrow, or low weight capacity) may account for a large portion of the rating, one should not assume that a low sufficiency rating means the bridge could fail.

MaineDOT also maintains an inventory of all cross culverts along State roadways. This includes a detailed inventory of large culverts defined as a pipe or structure with a total span width greater than 5 feet and less than 10 feet OR any multiple pipes, where the clear distance between openings is less than half of the smaller contiguous opening, and the total flow area is between 20 and 80 square feet. There is one large culvert along Route 113 in Baldwin over Pigeon Brook.

The following table shows the 19 bridges and culverts (spanning more than 10 feet) inspected by MaineDOT in the town of Baldwin, 6 of which are part of the Mountain Division Rail Line owned and maintained by the State. There are also six bridges owned and maintained by the Town of Baldwin.

<b>Location</b>	<b>FSR</b>	<b>Owner</b>	<b>AADT</b>	<b>Year Built/Reconstructed</b>
Weeman Rd over Breakneck Brook	90.3	Municipality	69	2006
New Rd over Breakneck Brook	91.9	Municipality	8	2021
Dearborn Rd over Breakneck Brook	91.9	Municipality	30	2016
Crawford Rd over Breakneck Brook	87.9	Municipality	49	1939
Pequawket Trl over Dug Brook	69.8	MaineDOT	4664	1939/1958
Pequawket Trl over Quaker Brook	39.5	MaineDOT	5469	1938
Douglas Hill Rd over Breakneck Brook	73.5	Municipality	524	1927
Routes 5 & 117 over Saco River	80	MaineDOT	3483	1997
Bridgton Rd over Stover Brook	68.5	MaineDOT	755	1940
Sebago Rd over Quaker Brook	70.6	MaineDOT	1068	1939
Douglas Hill Rd over Breakneck Brook	86.2	Municipality	306	1927
Bridgton Rd over Heath Brook	69.4	MaineDOT	1128	1929
Pequawket Trail over Breakneck Brook	49.6	MaineDOT	3912	1958
Mountain Branch over Quaker Brook	NA	MaineDOT	NA	1961
Mountain Branch over Pigeon Brook	NA	MaineDOT	NA	1860
Mountain Branch over Red Brook	NA	MaineDOT	NA	1890
Mountain Branch over Culvert Bridge	NA	MaineDOT	NA	1890
Mountain Branch over Break Brook	NA	MaineDOT	NA	1850

Mountain Branch over Dug Brook	NA	MaineDOT	NA	1966
Source: MaineDOT				

## Traffic Volumes

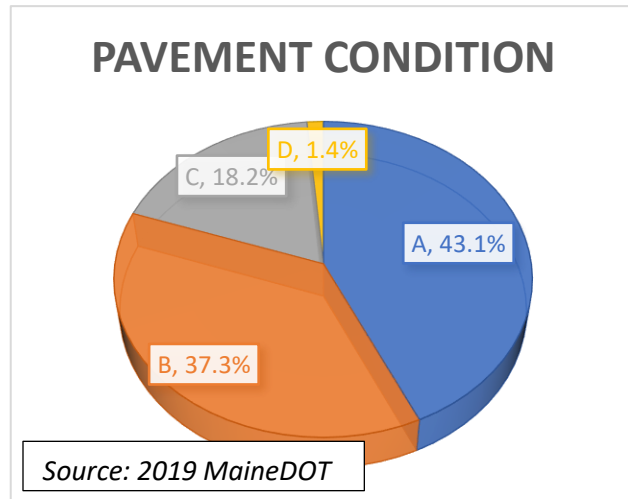
Since the mid 1980's, Maine DOT has monitored over 40 short duration traffic count locations in Baldwin typically collected on a three-year rotating schedule. The data from the short duration counts is adjusted using axel corrections and seasonal factors to develop Average Annual Daily Traffic (AADT) volumes. Looking at 9 rotating count locations across town, between 2010 and 2019, average traffic growth was just 9.6%, which equates to an average of just under 1.0% per year. Although some roads may have recorded unsubstantial traffic changes, other roads experienced more significant changes in traffic. Sections of State Route 113 (Pequawket Trail) observed the largest growth in traffic.

Location	2010	2013	2016	2019	% change 2010-2019
Freemont Ave west of Route 11/107 (Bridgton Rd)	610	480	620	500	-18.0%
Route 107(Bridgton Rd) north of Route 11 (Sebago Rd)	1120	960	1200	1130	0.9%
Route 11/107 (Bridgton Rd) north of Route 113	1510	1370	1540	1880	24.5%
Route 11/113 East of Route 11/107	4630	4120	4700	5480	18.4%
Route 113 (Pequawket Trl) west of Route 11/107	3650	3380	3300	4220	15.6%
Brown Rd north of Route 113 (Pequawket Trl)	190	150	150	190	0.0%
Route 5/117 at Cornish Townline	3270	3130	3530	3490	6.7%
Route 113 (Pequawket Trl) south of Route 5/117	3220	3190	3760	4080	26.7%
Route 5/113/117 (Pequawket Trl) north of Route 5/117	4260	3810	4800	4740	11.3%
Source: MaineDOT					

## Road Surface Conditions

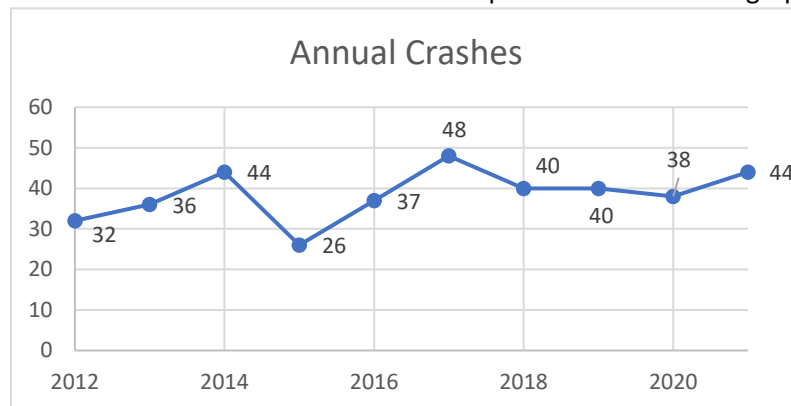
As part of MaineDOT's asset management methodology, pavement condition data is collected every two years on all State Highways and State Aid Highways. MaineDOT uses the Pavement Condition Rating (PCR), a 0-5 scale that is composed of International Roughness Index, rutting, and two basic types of cracking. The A-F scale (A being great condition) varies by Highway Corridor Priority.

As of 2019, just under 20% of Baldwin’s State maintained roads fall into the C and D categories. Over 80% of state roads are in good and great condition (A or B) which is slightly above the statewide percentage. Although this data changes as sections of roads deteriorate and receive new pavement, it gives a general idea of the condition of state roads in Baldwin and provides a benchmark for customer service level. Maine Local Roads Center offers a Road Management Software (RSMS) that can be used to assess and prioritize local roads for improvements, including cost estimates used for developing a local road maintenance plan.



### Safety

Maine Bureau of Highway Safety and MaineDOT obtain crash reports from state and local police to monitor crash statistics on Maine’s public roadways. The data is used to help develop strategies and direct funds that are dedicated to safety improvements. Over the ten-year period between 2012 and 2021 there was a total of 385 crashes reported as seen in the graph below.



The majority of those crashes occurred between October and January. Most crashes reportedly occurred on dry roads in clear conditions. Almost 50% (179) crashes involved a vehicle off the road while the next highest crash type were crashes with deer at 23% (90 crashes). The overwhelming majority of crashes occurred in

50mph and 55mph zones while only 16% percent were reported to be driving too fast for the conditions. Only 43 crashes were reported at intersections with the worst intersections being along Route 113 at The Whistle Stop as well as the intersection with Routes 107 and 5. Of all the individuals involved in the 385 crashes, there were 6 reported fatalities and 18 people seriously injured.

### Commuting Patterns

American Community Survey (ACS) data from 2016-2020 indicates a mean travel time to work of 36 minutes for workers aged 16 and older from Baldwin. According to the ACS, 81.5% drove alone,

11.8% carpoled, 3.4% walked, and 1.6% worked from home. The Longitudinal Employer-Household Dynamic (LEHD) program which is part of the US Census Bureau also produces demographic data on employers and employees. LEHD data displayed in the table below shows where Baldwin residents work. However, due to the COVID-19 pandemic there has been a nation-wide increase in the number of people working from home. This will likely have a large impact on commuting patterns in the 2020s.

Place of Work	Percentage of Workers
Portland	13.4%
South Portland	7.0%
Westbrook	6.1%
Gorham	5.8%
Windham	5.4%
Sebago	4.2%
Standish	3.1%
Baldwin	2.9%
Scarborough	2.8%
Bridgton	2.6%
Source: OnTheMap.census.gov	

## Public Transportation

The Regional Transportation Program (RTP) provides a range of transportation services in Cumberland County including fixed route transit from Bridgeton to Portland. In Baldwin, residents must apply to become eligible for demand response services provided by RTP. The general public may be eligible if services are available while seniors, adults with disabilities, people with medical needs, low-income individuals, and MaineCare members are prioritized for transportation services.

## Non-Motorized Transportation

Non-motorized transportation, including bicycling and walking, is a vital component to Baldwin's transportation system and to the health of the community. The infrastructure, the presence and behavior of motor vehicle traffic, and the surrounding land uses all contribute to how conducive an area is to walking or biking.

In many places throughout Baldwin sidewalks are not feasible, cost effective, or suitable for roads and neighborhoods. In those circumstances, asphalt and dirt shoulders are typically used by pedestrians. Bicycle infrastructure is limited in Baldwin and along most roads, bicycles share the road with vehicles. In some cases, shoulders are present and offer some separation from vehicular traffic.

## The Mountain Division Trail

The Mountain Division Trail (MDT) follows the former Portland and Ogdensburg Railway (P&O). When Maine Central Railroad acquired the line, the name was changed to the Mountain Division Rail Line. The line was originally built to connect the port of Portland with the St. Lawrence Seaway in Ogdensburg, N.Y. with a spur connecting to Montreal. By the time construction was finished, there were more competing rail lines, and it became difficult for the P&O to be profitable.

Many years after rail service was suspended along the line, the Mountain Division Alliance group was formed in an effort to preserve the corridor for a rail trail connecting Portland to Fryeburg. In 2021 the Mountain Division Rail Use Advisory Council was officially formed by MaineDOT Commissioner Bruce Van Note as a result of Resolve 21, Chapter 239. While some sections have already been converted to official rail trail, the final recommendation from the Advisory Council was to repurpose the entire corridor from rail use to trail use with potential for rail in the future. Approximately 10.4 miles of the envisioned 50 mile trail corridor are located within Baldwin.

