

[Back to Top](#)

[Why do we have a road plan?](#)

[How many roads does the Town maintain?](#)

[How are roads prioritized?](#)

[What is the road plan budget based on?](#)

[What causes a road to break down?](#)

[Why are you paving that perfectly good road when my road is still terrible?](#)

[What is the process of road reclamation?](#)

[I thought this was a road plan why is so much work done on drainage?](#)

[Is there a list available to see what year my road is scheduled for repaving?](#)

[Does the state maintain any roads in Goffstown?](#)

[How do the State Classifications IV, V and VI impact maintenance actions?](#)

[Does the town have any gravel roads?](#)

[Why do we have a road plan?](#)

The road network represents the largest asset owned and maintained by the Town of Goffstown. Roads are vital components to our way of life. Good road access is very important to public safety. In today's world of on-time delivery, the road network is critical to commerce and economic development. Roads deteriorate over time no matter how well they are constructed, so it is critical to have a good plan for the timely maintenance. The current road plan was adopted in 2001. Prior to the road plan, Goffstown's roads were not well maintained. Since 2001, Goffstown has continually updated roads to provide residents with good road access. ([Back to Top](#))

[How many roads does the Town maintain?](#)

There are 286 individual roads in the database; however, they are broken into 383 different sections, because some roads change width along their length, or are quite long, they are broken into multiple sections for pavement management purposes. There are approximately 130 centerline miles of paved road owned by the Town. All costs and estimates are based on the cost per square foot. The DPW maintains over 15.7 million (yes million) square feet of pavement that are owned by the Town of Goffstown. At a cost to reconstruct of \$7 per square foot that represents an asset with a value of over \$110 million. ([Back to Top](#))

[How are roads prioritized?](#)

The DPW utilizes a computer program called MicroPAVER which was developed by the US Army Corps of Engineers. Every summer, college interns drive the roads of Goffstown and measure and assess their conditions. All the data is entered into the computer. MicroPAVER then calculates the condition of each segment of roadway and prioritizes the repairs based on condition, traffic load and available budget. DPW then takes that data and considers other factors such as upcoming sewer or water projects, bridges that need to be replaced and disruption to traffic. DPW maintains two lists that are approved by the Board of Selectmen at DPW's recommendation. One is a long-term Capital Improvements List (CIP) that represents the major reconstruction projects that get spread out over future years. These are the very costly projects that are coordinated with other major projects and utilities. The other list is an annual work plan that is reviewed and approved each spring. This list details what will be done each season including all maintenance activities and major work for that year. ([Back to Top](#))

[What is the road plan budget based on?](#)

In 2001, when the Town adopted the original road plan, the budget was based on the cost to slowly improve the condition of the existing road network. The budget assumed a 3% escalator in the budget each year to account for inflation. The budget did not account for new construction (ie. bridges, equipment purchases, roundabouts or upgrading dirt roads to paved

roads) only the maintenance and rehabilitation of existing pavement. ([Back to Top](#top))

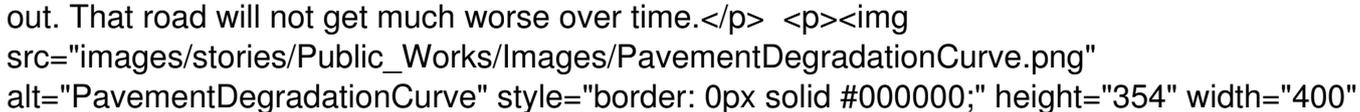
What causes a road to break down?

There are many factors that lead to the deterioration of a road. ♦♦ Sunlight (UV Rays) break down the asphalt. Freeze/thaw cycles cause the asphalt to shrink and expand leading to cracks. Frost action heaves the roads. Traffic loading obviously affects the life of the pavement. Probably the worst enemy that a road can have is water. Getting water away from the roadbed is critical.

The other factor, particularly in New England is many of our roads were never properly constructed. They started as wagon roads in colonial times to get produce to the market. Over time they were widened and upgraded, however, never properly designed for today's traffic loads. ♦ There is a great video ([click here](http://www.youtube.com/watch?v=vd8rT7iZgAk)) that demonstrates this phenomenon. ([Back to Top](#top))

Why are you paving that perfectly good road when my road is still terrible?

The road plan is essentially made up of three components; maintenance, reconstruction and stop gap measures, which are all incorporated on an annual basis. Good pavement management would dictate that all of the good roads are maintained first with the limited budget. The reason for this is represented on the graph below. Pavement is very similar to the shell of your house. If you paint it regularly and keep it sealed we all recognize the benefit of it. If we allow water to seep into the wood and begin to rot the framing it would jeopardize the structural integrity of the house, which would make for very costly repairs. ♦♦ If you look at the graph below, you see a typical pavement degradation curve. ♦♦ In the first few years after a road is constructed it is easy and inexpensive to maintain it. The trick to good pavement management is to try to keep your roads in this condition as long as possible. Once the cracks become full-depth and too numerous to keep sealed, water will begin to enter the base gravels and break the roads down. At this point, the degradation curve gets steeper, the deterioration of the road accelerates and the repairs become more costly. Once a road is in complete failure the curve begins to flatten out. That road will not get much worse over time.

The graph shows a typical pavement degradation curve. It starts with a shallow slope, indicating that in the first few years after construction, the road is easy and inexpensive to maintain. As time progresses, the slope becomes much steeper, showing that deterioration accelerates and repairs become more costly. Finally, the curve begins to flatten out, indicating that once a road is in complete failure, it will not get much worse over time.

Because of this, DPW has a good maintenance program. Once a road has been reconstructed or repaved it is added to our annual crack sealing list. ♦♦ The object of crack sealing is to keep the water out of the gravels for as long as possible. The next layer of maintenance is an overlay. Over time, traffic wears ruts into the top coat of asphalt. The top coat is called the wear course. The purpose of this coat is just what the name suggests, it is a thin layer that provides a smooth ride, seals the base (structural) asphalt course and provides an easily maintainable surface for DPW. Every 7 or 8 years DPW plans to add a new wear course to new and rebuilt roads, to keep the water draining from the surface, the ride smooth and the road maintainable. If left too long, then ruts will form in the road and it will need to be shimmed before it can be overlaid which adds to the cost.

The second component of the road plan is road reclamation. In 2001, the Board of Selectman, DPW, the Budget Committee and a very positive vote at Town Meeting decided that the Town could not afford to start from scratch and build all of the roads to today's standards. At that time, a policy of reclaiming existing roads was adopted. See the Road Reclamation FAQ for more information on this process.

The final aspect of the road plan is the stop gap measures. Stop-gap measures are simply a bandaid and not a true fix to the underlying structural road failure. DPW does not like spending money on stop gap, however, many of the Town's roads are in such

poor condition that they can no longer be maintained or politics dictate that the Town do something to hold the road together until they can be rebuilt. This is really not a cost-effective measure, however, it is deemed necessary from time to time. ♦Shims♦ or ♦shimming a road♦ is considered a stop gap measure which will only last 4 or 5 years at best. ([Back to Top](#top))

What is the process of road reclamation?[q7](#)

The Town's worst roads fall under the category of road reclamation. These are very large and very expensive projects and take several years to adequately plan and implement. The first step is to design the roads. DPW utilizes our in-house engineering staff and the Town's Geographic Information System (GIS) and survey equipment. Occasionally a licensed land surveyor is hired to delineate the property lines for the project. The drainage system and any changes to the roadway alignment are designed and efforts are made to correct any known maintenance problems such as icing or sight distance.

DPW then works with the abutting residents to obtain any needed easements and address any homeowners concerns. Once the design is complete a public informational meeting is typically held and all residents within the project limits are invited to attend and ask questions.

The first step in the reclamation process is to install the drainage. DPW also works closely with the water and sewer utilities to correct any defects in those systems at that time, so the roads will not be dug up after reconstruction.

When all the underground work is complete the old pavement is reclaimed (ground) with the underlying gravels to form a new base material. This reclaimed asphalt gravel makes an excellent road base. If the underlying soils are really poor then the reclaimed gravel is removed to place a geotextile fabric between the poor soils and the reclaimed gravel. This will help distribute the traffic load more effectively and extend the life of the pavement. Once the reclaimed material is graded a couple of inches of new crushed gravel is added if needed. This provides a very uniform surface and will minimize how much expensive asphalt is placed. The base course of asphalt is then laid over the gravel. This 2 ♦ inch layer is the load carrying layer of asphalt. Existing drainage structures are then brought up to grade, driveway aprons are tied in, shoulders are graveled and loam and seeding is done.♦♦ The new road will stay like this through one freeze/thaw cycle to insure that all the problems with the road have been addressed. The following season the 1 ♦ inch wear course of asphalt is placed to seal the finished road and provide a smooth maintainable surface. ([Back to Top](#top))

I thought this was a road plan why is so much work done on drainage?[q8](#)

The number one cause of roadway deterioration is water in the base materials. Many of our roads were never properly designed and constructed to move water away from the roads. Goffstown is blessed with the beautiful Uncanoonuc Mountains, the Piscataquog River and Glen Lake. However, our natural terrain means that a great deal of water is moving off our mountain sides and traversing down to the rivers and lakes.♦♦ As this water travels along our roadsides and down the steep slopes it can cause many problems with our roads. Almost 40% of the road reclamation money actually goes into drainage infrastructure to maximize the life expectancy of the road repairs. ([Back to Top](#top))

Is there a list available to see what year my road is scheduled for repaving?[q9](#)

DPW maintains two separate road lists, the long term CIP reclamation list and the annual road plan. Both of these are public information. Please note the lists are updated and changed regularly due to many factors that are beyond DPW's control. The annual budget process and bid prices affect the amount of work that can be done. The list will change from year to year, therefore it is not accurate information. If your road is several years out, it is highly probable it will shift farther out on the

list. The Board of Selectmen and DPW are aware of the poor condition of many of Goffstown's roads. DPW travels around the entire road network every day performing maintenance, plowing and collecting the trash. With your support at voting time, DPW will continue to work closely with the Board of Selectmen on improving the Town's roadway system. ([Back to Top](#top))

Does the state maintain any roads in Goffstown? [q10](#)

In New Hampshire, Class I, II, and III public roads are state maintained roads. In Goffstown we have 17.1 centerline miles of state maintained Class III roads; i.e., NH 13 and NH 114. ([Back to Top](#top))

How do the State Classifications IV, V and VI impact maintenance actions? [q11](#)

Class IV, V and VI road are town maintained roads. Class IV roads are state numbered highways within a densely built up portion of the town, often called the Urban Compact Section. The limit of the Class IV sections are shown by signage indicating you're entering a "Compact Section". By state law, no state money can be spent to maintain the Compact Section roads. Class V roads are the normal road system built and maintained by the town for public travel. A new road, built by a developer and after public acceptance, falls into the Class V category. Until such a road is accepted, it is essentially a private road; the maintenance is the developer's responsibility and the town cannot provide trash pickup or snow plowing. A school bus route cannot use a private road. Class VI roads are old public ways never built to acceptable standards or a stretch of road taken out of public use (such as when a re-routed section is built; i.e., Henry Bridge Road). Class VI roads are essentially left to nature to reclaim. The town and abutters may not take any action to further remove traces of a Class VI road. The town is prohibited from spending money to improve the condition of the road; however, property owners needing a Class VI public way to access their property may seek the permission from the Selectmen to perform very limited maintenance at their own expense. ([Back to Top](#top))

Does the town have any gravel roads? [q12](#)

A: The town has 2.8 centerline miles of gravel roads. These are periodically graded to maintain their crown, drainage, and condition. A decision to rebuild and pave a gravel road would be need to be justified by development or other considerations in the area and funding available in the annual road plan. ([Back to Top](#top))