Lyme Roads Plan

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Lyme has 13 miles of paved roads and 39 miles of dirt roads. All of these roads are classified as 'Class V roads' in the State of New Hampshire's road system. Almost all of the roads have been in existence for over a century (some much longer) and almost without exception are not well built in terms of supporting material and drainage.

The upgrade of Route 10 in 1965 led to a significant increase in traffic on Lyme's roads because Lyme became an extremely attractive community for people associated with Dartmouth College, the medical center and the various hi-tech firms in the area. This increase in traffic has resulted in increased wear and tear on Lyme's Class V roads. These roads were never built for heavy traffic in the first place.

The nature of traffic has also changed and large trucks and various package delivery vehicles are found on all of the roads. Many of these vehicles have heavy, stiff suspensions and are hard on road surfaces.

The East Thetford bridge is also a significant contributor to problems with River road (and to traffic through Lyme) because it is a major commuter route to and from Vermont. Vehicles from both Hanover and the north use River Road to get to and from East Thetford bridge.

All of this road use has required increased maintenance on the roads and has led to steady deterioration of the town's two longer sections of pavement: River Road and Goose Pond Road. Happily, the shorter sections of pavement on several steep hills and in the village are in relatively good condition.

Over the last couple of years there has been great progress on improving the quality of our dirt roads and improving conditions during mud season. This is due to buying better fill material and also to the purchase of the vibratory roller and the equipment for applying magnesium chloride to the road surfaces. These additions to Lyme's equipment have stabilized dirt road surfaces and made a dramatic reduction in road dust.

In terms of long-term maintenance, one of the most critical parts of the road system is the culverts. For some years, culvert replacement was not a priority, and now there is a significant backlog of work. Also, the more frequent torrential rains that we are having mean that replacement culverts need to be larger in order to be able to handle sudden large flows without having the water back up and wash out the culvert and the road surface above it. The highway department is working steadily on the culverts, but it is limited in what it can do by insufficient funds.

There are two major issues with Lyme's roads that are both difficult and expensive to resolve: the many problems associated with bank collapse along River Road, and the need for a long-term strategy for dealing with deteriorating pavement on both River Road and Goose Pond Road.

The most obvious River Road problem is the closed area south of East Thetford road. The existing road is unstable and a careful and responsible analysis of the situation makes it clear that it is not economically reasonable to attempt to repair it. The only cost-effective alternative is the proposed bypass road. Construction of the bypass road is being held up in eminent domain litigation.

But River Road has many other problems and will continue to be a significant expense for the foreseeable future. It is eroding into the river in several places, and most of it has an unstable roadbed. Erosion on the steep bank just to the north of North Thetford Road and a slumping area to the south of the Grant Brook bridge are areas of immediate concern.

Major problems with River Road are that parts of it are paved and that much of the pavement is in very poor condition due to age and an unstable roadbed. This year, for example, the town has spent $40,000 to patch areas of pavement that were so unstable that they could not be plowed. This was done with great reluctance because it does not help to solve the underlying problem: most of the pavement on River Road is aged and unstable because the road bed itself is unstable.

After detailed analysis and long discussion, the Class V Roads Committee has recommended to the Board of Selectmen that the most of the pavement on River Road be milled down over a period of time and that the road be converted to gravel-surface road so that it can be maintained in good condition with the town's existing equipment and maintenance practices. Here is the logic behind this recommendation,

Much of the pavement is old, unstable and breaking up. Re-paving over an unstable base is a waste of money. Current cost estimates for rebuilding roadbed so that it is stable for pavement come to something like $800,000 a mile for roads that are not threatened with bank erosion. Milling the road surface so that Lyme's highway department has the ability to maintain it and to make repairs on steep banks has a current cost of approximately $155,000 per mile.

The milling process involves grinding up the pavement, taking the ground pavement offsite and mixing it with crushed stone, repairing culverts as needed and then replacing the mixed material, and finally grading and compacting the new surface. Once the surface has been converted to gravel, it will then be possible to make limited repairs on areas on areas that prove to be unstable. This is not possible when the road is paved.

This solution lets the road crew keep roads in decent shape, for an **annual** maintenance cost of $10,700 per mile, but it does not address the problems of basically poor substructure in many areas. Fixing the subsurface to a depth of 12" is almost as expensive as preparing for pavement and would cost about $500,000 per mile.

The bottom line is simple and sobering: Lyme, as a community, lacks the money to rebuild the road base of the paved sections of River Road and Goose Pond road. We do have the means of maintaining good-quality gravel roads, and we have found that treating the surface of the roads with magnesium chloride minimizes road dust and stabilizes the road surface so that less maintenance is required.

The timing of conversion of sections of paved road to gravel road or from gravel to pavement will be based on input from our road agent and on the Roads Committee's assessment of the most cost-effective course of action given data on the maintenance requirements of the road surface, the volume of traffic and the underlying stability of the road base.