



October 8, 2010

Article 5, Capital Program – Bond Authorization for Road Improvements

The Joint Capital Planning Committee (JCPC) recommends that Town Meeting authorize borrowing \$4.5 million for road improvements. The vote to recommend was unanimous, following discussions at meetings in September and October.

BACKGROUND: Due to increasing costs of materials, annual appropriations of about \$500,000 in state Chap. 90 road repair funds have not been enough to fix the town's deteriorating roadways. JCPC noted this problem in written reports to Annual Town Meeting for the last three years. In a December 2008 memo to the Select Board, the Public Works Committee estimated the backlog of the most urgent projects to be more than \$4.8 million, with a total road repair backlog estimated at \$14 million. Today, that backlog has grown to an estimated \$19.5 million.

PROPOSAL: Town Manager John Musante has recommended a comprehensive plan for road improvements for the 2011 and 2012 construction seasons. The Department of Public Works has developed a procedure to prioritize road repairs. Those which are in worst condition and most heavily used would be done first. The Pavement Improvement Plan for Fiscal Year 11 requires \$4.5 million in borrowing, in addition to the annual Chap. 90 appropriation plus some federal and state grants that will have to be applied for. (See Sept. 30, 2010, memo from Guilford Mooring, Superintendent of Public Works, and FY11 Pavement Improvement Plan.) The \$4.5 million would be paid back over 10 years, with estimated annual debt service of about \$500,000. This would be paid for from the existing allocation of funds from the tax levy devoted to the capital plan funded annually by Town Meeting.

WHY WE SHOULD DO THIS NOW:

- Interest rates are extremely low. If the project is postponed, the cost of borrowing will rise along with interest rates.
- Postponing it means more extensive and expensive repairs will be needed in the future. Unless deteriorating roads are fixed, they'll decay further due to the inevitable freeze-thaw cycle of New England weather.
- Once roadways are repaired, they can be kept in good condition longer with low-cost maintenance such as sealing any cracks that develop.
- An infusion of money to repair the most-heavily travelled roads means future annual Chapter 90 appropriations will be available to begin fixing deteriorating roads in neighborhoods.

JOINT CAPITAL PLANNING COMMITTEE

Emily Lewis, Jones Library Trustees	Doug Slaughter, Finance Committee
Sarah McKee, Jones Library Trustees	Rob Spence, School Committee
Kay Moran, Finance Committee	Diana Stein, Select Board
Catherine Sanderson, School Committee	Jim Wald, Select Board



AMHERST *Massachusetts*

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September 30, 2010

To: John Musante, Town Manager

From: Guilford Mooring, Superintendent of Public Works

Subj: Road Repair Recommendations for 2010-2011 Construction Seasons

It has become evident that the Town of Amherst is not keeping up with maintaining our roadway system. The current practice of spending only \$ 500,000 a year in State provided Chapter 90 funds needs to be augmented with additional funds. Since 2008 the DPW with input from the Public Works Committee has been developing and revising a plan to address the severe deterioration of the Town's roadways. In 2008 the estimated back log of road repair work was \$14 million. The current estimate is \$19.5 million. These estimates come from the Town's Pavement Management system which documents pavement distresses and roadway function to create an "Overall Condition Index," or OCI. Our system uses a rating scale of 0 to 100, a new road will be rated as 100 and a roadway that has failed will be a zero. The goal is to keep a road at an OCI of 70 or better. Our current system wide rating is 49.45.

Since it is not practical to infuse \$19.5 million in all the Towns roads immediately the DPW has approach the situation by using a "surgical" approach. The approach identifies the roads that serve the most residents and then customizes the repair process to that roadway. This means that some roads may have three or four repair methods. For example the road may have several hundred feet that will be milled and covered with a thin asphalt overlay, another section maybe reclaimed then paved and a third section maybe shimmed with a thin asphalt layer. The DPW also concentrated only on repairing the roadway. None of the estimates include the addition of new sidewalks, sidewalk repairs, bike lanes or bus pull offs. These items are important but it is recommended that they be addressed separately to ensure that the primary goal of repairing the worst Town roads is reached.

The revised repair plan for FY 2011-2012 is shown on the attached spread sheet. This is the forth iteration of this plan which began several months ago to cull the \$ 19.5 million dollar project into a more manageable project. The current plan recommends spending the following amounts of money:

1.	\$ 976,672	State provided Chapter 90 funds over two years.
2.	\$ 4,500,000	Town Capital funds.
3.	\$ 572,673	PWED, Public Works Economic Development funds from a State grant.

4.	\$1,426,356	TIP, Transportation Improvement Funds from State grants.
5.	\$ 461,486	CDBG, Community Development Block Grant funds.
Total	\$ 7,897,893	

Note: Items 3,4,& 5 are competitive grant programs that have not been awarded yet.

Even though the above project does not completely correct our roadway problems it does improve our overall system rating from 49.45 to 60. OCI improvements by roadway functional classification and cost are:

Type	Current OCI	New OCI	Cost
Arterials			
Major	67	78	\$2,067,221
Minor	63	86	\$1,204,091
Collectors			
Major	61.44	82	\$2,011,481
Minor	56.9	73	\$1,079,101
Locals			
Major	39.45	73	\$1,535,948
Minor	46.41	46	\$0

I believe this is the best course of action at this time and recommend approval.

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FY 11 Pavement Improvement Plan

29-Sep-10

Funding	CH 90 yr1	CH 90 yr2	Bond	PWED	TIP	CDBG	Total
Construction year	2011	2012	2011	2012	?	2011 or 2012	

ID	Segment	From	To	Functional Class	OCI	\$487,899	\$488,773	\$4,460,656	\$572,673	\$1,426,356	\$461,486	\$7,897,843
00333	MAIN ST	TRIANGLE ST	SOUTH PLEASANT ST	Minor Arterial	1.89			288,514				
00334	MAIN ST	SOUTH EAST ST	TRIANGLE ST	Minor Arterial	39.96						461,486	
00328	COLLEGE ST	DICKINSON ST	SOUTH PLEASANT ST	Major Arterial	32.42		101,982					
00362	BAY RD	MIDDLE ST	ROUTE 116	Major Arterial	40.64	427,800						
00363	BAY RD	SOUTH EAST ST	MIDDLE ST	Major Arterial	45.12			419,985				
00347	MEADOW ST	ROUTE 116	NORTH PLEASANT ST	Minor Arterial	0.00			145,194				
00360	SHAYS ST	HOUSE #288	MIDDLE ST	Minor Arterial	0.00			137,157				
00354	PELHAM RD	POET'S CORNER	MAIN ST	Minor Arterial	31.57		92,000					
00434	PELHAM RD	WARD ST	HEATHERSTONE RD	Minor Arterial	36.91		79,741					
00373	SOUTH EAST ST	COLLEGE ST	MAIN ST	Major Collector	4.06			103,085				
00082	MIDDLE ST	S EAST ST	POMEROY LN	Major Collector	8.32	60,099						
00379	SOUTH EAST ST	POTWINE LN	SHAYS ST	Major Collector	39.06			203,957				
00302	N PLEASANT ST	PAVEMENT CHANGE	EASTMAN LN.	Major Collector	54.49		215,050					
00367	TRIANGLE ST	MAIN ST	EAST PLEASANT ST	Major Collector	57.11			215,098				
00365	AMITY ST	UNIVERSITY DR	NORTH PLEASANT ST	Major Collector	57.17			332,618				
00083	STONY HILL RD	GATEHOUSE RD	AUBINWOOD RD	Minor Collector	0.00			143,386				
00316	STATION RD	Hop Brook	SOUTH EAST ST	Minor Collector	0.91			158,374				
00220	LINCOLN AVE	NORTH HADLEY RD	FEARING ST	Minor Collector	12.55			61,695				
00084	STONY HILL RD	HARKNESS RD	GATEHOUSE RD	Minor Collector	14.87			249,739				
00353	W POMEROY LN	GOLF COURSE EAST DRIVEWAY	ROUTE 116	Minor Collector	23.00			127,675				
00216	HIGH ST	HARVARD AVE	MAIN ST	Minor Collector	25.95			132,494				
00217	CHESTNUT ST	SOUTH EAST ST	HARVARD AVE	Minor Collector	31.05			205,737				
00053	SHUMWAY ST	COLLEGE ST	MAIN ST	Major Local	0.00			65,020				
00119	S WHITNEY ST	COLLEGE ST	MAIN ST	Major Local	0.00			62,386				
00157	N WHITNEY ST	GROVE ST	MAIN ST	Major Local	0.00			92,003				
00165	ROLLING RIDGE RD	TEAWADDLE LN	EAST PLEASANT ST	Major Local	0.00			101,159				
00190	CHERRY LN	HOUSE #98	EAST PLEASANT ST	Major Local	0.00			99,065				
00207	MCCLELLAN ST	NORTH PLEASANT ST	LINCOLN AVE	Major Local	0.00			94,647				
00227	ORCHARD ST	WOODSIDE AVE	NORTHAMPTON RD	Major Local	0.00			64,090				
00268	SUNSET AVE	NORTH HADLEY RD	FEARING ST	Major Local	0.00			71,527				
00269	SUNSET AVE	AMITY ST	FEARING ST	Major Local	0.00			166,442				
00272	S PROSPECT ST	NORTHAMPTON RD	AMITY ST	Major Local	0.00			72,424				
00356	SAND HILL RD	PUFFER CIR	STATE ST	Major Local	0.00			57,066				
00372	POTWINE LN	PAVEMENT CHANGE	ROUTE 116	Major Local	0.00			136,227				
00391	MATTOON ST	Parking Lot	TRIANGLE ST	Major Local	0.00			46,973				
00408	MILL ST	STATE ST	SUMMER ST	Major Local	0.00			38,898				
00345	STATE ST	SAND HILL RD	PINE ST	Major Local	7.66			107,668				
00410	SHUTESBURY RD	PAVEMENT CHANGE	HENRY ST	Major Local	0.00			76,386				
00411	SHUTESBURY RD	Town Line	PAVEMENT CHANGE	Major Local	0.00			153,912				
00430	ROLLING RIDGE RD	END	BEECH ST	Major Local	0.00			30,056				

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FY 11 Pavement Improvement Plan

29-Sep-10

Funding	CH 90 yr1	CH 90 yr2	Bond	PWED	TIP	CDBG	Total
Construction year	2011	2012	2011	2012	?	2011 or 2012	

ID	Segment	From	To	Functional Class	OCI	\$487,899	\$488,773	\$4,460,656	\$572,673	\$1,426,356	\$461,486	\$7,897,843
00327	BELCHERTOWN RD	SOUTH EAST ST	GATEHOUSE RD	Major Arterial	72.16					432,412		
00326	BELCHERTOWN RD	Town Line	GATEHOUSE RD	Major Arterial	81.34					685,042		
00301	N PLEASANT ST	EASTMAN LN.	MASSACHUSETTS AVE	Major Collector	0.00					308,902		
00390	BRIDGE ST	LEVERETT RD	PINE ST	Major Collector	24.71				149,162			
00312	PINE ST	BRIDGE ST	SAND HILL RD	Major Collector	0.98				91,256			
00310	PINE ST	STATE ST	NORTH PLEASANT ST	Major Collector	33.07				143,469			
00311	PINE ST	SAND HILL RD	STATE ST	Major Collector	43.58				188,786			

- Notes:
- Chap 90- These are state funds given to the town yearly. We currently receive \$614,000
 - Bond This would be a general fund bond by the Town for ten years
 - PWED This is a competitive state grant program
 - TIP Transportation Improvement Plan, This is state & Federal funding that competes with other projects in the area
 - CDBG Community Development Block Grant- This is Federal funds allocated by the Select Board.

Memo from the Public Works Committee to the Amherst Select Board

Re: Urgently-needed street repairs

December 10, 2008

In the past year it has become clear to the members of the Public Works Committee that the roadways in Amherst have reached a critical point of deterioration. For the past 6 months a sub-committee has worked closely with DPW Superintendent Guilford Mooring to take a hard look at the existing situation with respect to roadway condition and to generate a set of recommendations based on their work. The full PWC committee, having considered and revised these recommendations, now formally presents them to the Select Board in this memo.

A pressing need

Like most towns in Massachusetts, Amherst pays for most road repairs (crack sealing, overlays, milling/repaving, and reclaiming/repaving) via the annual state Chapter 90 distribution. This has averaged roughly \$500,000 in the past decade. Unfortunately, this amount has proved to be insufficient to keep up with the wear and tear on the 105 miles of town-owned roadways. The predictable result has been a slow but steady deterioration in the roadways to the point, now, that many are hazardous to drivers, pedestrians, or both.

Crumbling roadways degrade the quality of life and negatively impact the town and its residents many ways:

- Potholes and rough/uneven surfaces damage vehicle frames and tires from direct impact, and vehicle windows from exposed stones and rocks.
- Emergency vehicles are adversely affected by poor road conditions—particularly ambulances which must slow considerably if they are transporting patients with any kind of cervical or spinal fracture.
- Potholes or crumbling roadway edges encourage drivers to swerve over the median line, increasing the risks of collisions

- Deteriorating road surfaces are a special hazard to bicyclists, both directly through physical impacts and indirectly by forcing riders to swerve into traffic
- The terrible condition of many roadways reflects very poorly on the town's ability to maintain its infrastructure.
- Because roadways are so visible, their state of repair is obvious to the tens of thousands of visitors who drive here every year and may adversely impact the recruiting efforts of local colleges and universities.
- Letting roadways deteriorate shortens their lifespan because low-cost maintenance activities such as crack sealing are useless once a roadway has degraded significantly.

Scope of the problem

The DPW maintains an inspection program of town roadways and generates an Overall Condition Index number that indicates the “health” of the road, ranging from 100 (perfect health) to 0 –virtually impassable. Roadways with an OCI index below 70 are generally considered to require significant repair, either with an overlay (a short-term, sub-optimal solution) or some degree of milling/reclaiming and resurfacing (preferable). As of July, 2008, 64 street segments met this criterion for repair, which represents roughly 48% of our streets and roads and roughly 50 miles of roadway to repair.

An intelligent solution

At the request of the sub-committee, Mr. Mooring and his staff have created a draft Paving Report which details exactly how much of each of these streets needs attention, and to what level of repair. This kind of detail allows for some significant cost savings, since it takes a “surgical” approach to each street in need of repair. Many streets with low OCI scores have only portions in rough shape and other portions which can be adequately maintained with, for example, crack sealing. This is a very intelligent way to approach our challenge and we commend Mr. Mooring and his staff for doing the extra work involved in preparing the report.

Included in the report are cost estimates, which are based on a price of \$91/ton paving cost (realistic, but, of course, dependent on overall oil prices and other variables). A summary of

these costs is presented here, with roadways grouped by average traffic volume (i.e. “arterials” “collectors” and “local roads”).

Special projects (FY '09 Chapter 90):	\$446,460
Major arterials:	\$279,783
Minor arterial:	\$892,198
Major collector:	\$467,397
Minor collector:	\$652,668
Major local:	\$1,414,515
Minor local:	\$686,371
Total:	\$4,839,393

This total includes “special projects” which are a set of streets previously approved by the committee for repair and which will be paid for via Chapter 90 funds. Not included in this estimate, however, are any repairs to existing sidewalks, creation of new sidewalks, or the creation of bus pull-offs. These are desirable improvements and the director of Public Works estimates that inclusion of sidewalk repairs and bus pull-offs can be expected to add an additional 20%-30% to any particular street repair cost. But in the current fiscal climate, the Committee recommends that decisions about these additional features be separated from decisions about funding the primary objective of repairing the worst of the town’s roadways. (The Committee has already created prioritized lists of sidewalk repairs, which can be provided to Select Board members at their request.)

The Public Works Committee is not charged with determining *how* this amount of road repair should be funded. The Committee is aware, however, that for matters of bonding, road repairs fall into two classes. Minor repairs such as milling and repaving, overlays, and crack sealing are not considered substantial and, therefore, can not be funded with bonds of more than a 5-year term. Repairs that reclaim all or most of the roadway bed, however, can be paid for with 10-year-term bonds. Mr. Mooring’s report identifies the type of repairs each of the most in-

need streets requires, which will help guide the decisions by other town bodies who are considering funding options for these pressing needs.

Recommendation for action

In summary, the Public Works Committee strongly recommends the funding and completion of the roadway repairs detailed in the Paving Report that accompanies this memo. Doing so will allow the town to “catch up” on long-deferred street repairs. With this work completed, we can expect to maintain our roadways in adequate condition for at least the coming decade using only the annual Chapter 90 funds. The plan to affect these repairs is reasonable, it is based on a solid and recent assessment of roadway conditions, and it is as fiscally conservative as possible. By adopting this plan and ensuring its funding, the Town will greatly improve public safety and the overall quality of life in Amherst.