

# Ways To Get More For Your Money In Transportation Construction

Recommendations from Associated General Contractors of Vermont  
To The House & Senate Transportation Committees of the Vermont Legislature

12. **Innovation Contracting Procedures:** Traditionally highway projects are designed, bid and built with the contract awarded to the lowest bidder. Innovative contracting allows for other factors such as time, quality, and innovation to be considered, in addition to low bid. Projects suitable for any innovative contracting technique are projects in which right-of-way, utility, environmental, and other socio-political issues have been resolved and projects where the potential exists for increasing quality, decreasing costs, reducing administration costs, and reducing the possibility for legal claims and change orders. Types of innovated contracting procedures are: Design build, lane rental, A+B bidding, Warranty contracts, and Job order contracting.
11. **Time is money. Streamline the process and save money over long term.** The process from conception to construction needs to be streamlined. At present the process takes approximately 8 to 10 years. Most of the projects consist of replacing the existing roadway or structure in the same basic alignment. The process should be simple, AT designs the project, ANR issues a permit, and public input should be based on functionality not aesthetics. Each activity should have a deadline and a penalty for non performance. This process should only take a year to complete, once the process is predictable it will eliminate duplicate work for all agencies. We have a simple task to do, that is , provide the public with a safe, timely and economical route to get to and from their destinations.
10. **Crack sealing slows the rate of pavement deterioration.** The Strategic Highway Research Program (SHRP) H-106 Maintenance Experiment showed crack sealing to be cost effective. All asphalt and cement pavements crack. Using state of the art materials and tools for crack sealing is one of the most cost-effective ways to prolong pavement life. Crack sealing will extend pavement dollars.
9. **Low cost, quick turn around safety solutions:** Upgrade guardrail systems to provide safer roads with reduced liability. The upgrade could utilize existing material by changing end sections to approved breaking terminals and by replacing steel blocks with approved blocks while maintaining the existing rail and posts. Low cost quick turn around solutions utilizing pavement markings & signage. Utilizing durable/permanent highly reflective pavement markings reduces the need to re-stripe each year, saving money, reduces safety hazards to traveling public by eliminating repeated re-stripping, thus the end result safer roads saves lives. Upgrading railroad crossings and improve safety by utilizing wider, brighter signs and lines. Geometric issues: Improving safety with wider, brighter pavement markings and advance warning signs with flashing beacons until such a time the roadway curvature can be removed.
8. **Pre-cast Bridges or pre erected bridge structures:** Develop a project as an erector set, build the components in a controlled environment and assemble the structure in the field. Use a standard design and modify the site to fit the structure. The contractors should be able to complete 10 structures in a season instead of one or two.
7. **Move up completion dates for bridge structures:** The completion date for most bridge projects is in October and November, which forces the installation of the weather sensitive materials (membranes, paving, line painting, etc.)to be applied during marginal weather conditions. Also there are a limited number of subcontractors to perform these specialty items and this create a very demanding schedule on them to complete a seasons workload in only two months. The completion dates should be set at varying times throughout the season to allow the weather sensitive materials to be applied during favorable conditions and to allow the subcontractors more time to service the projects.

6. **New Trenchless Methods Can Reduce Costs:** Alternative methods of digging trenches for piping system, replacement, rehabilitation and new installations can dramatically reduce costs. New trenchless technologies can save up to 60% in some cases. Trenchless technology can save time which is critical in Vermonts' short construction season and limits public inconvenience caused by detours and slowed traffic in construction zones. There is also a cost savings in reducing maintenance costs, now and in the future, by minimizing asphalt cutting which can lead to future deterioration of the pavement.
5. **Early Bidding on Paving saves money:** Contractors eager to take full advantage of the construction season and put their resources to work (ie employees) will often bid work cheaper in the Spring than in the Fall. Conversely, late bids have to compete with existing backlogs, end of season completion dates and limited resources often resulting in a higher bid for the work. For example, the first bid of the 2003 paving season was a 7.7 mile stretch of roadway on I-89 at the cost of 101,687 per mile. The last paving project bid in the same year, 2003 was an 8 mile section of I-89 for a cost of \$158, 824 per mile. These projects were virtually the same with the only difference being the bid date resulting in a 64% increase in cost.
4. **Focus on miles rather than dollars.** With 3200 miles of equivalent 2 lane paved roads, we need to be paving 200 miles per year for a 16 year life/resurfacing cycle. The '04 budget calls for 105 miles of paving, about ½ of what is needed. We spend too much money on in depth pavement/road rehabs. By neglecting to resurface a sufficient amount of roadway miles today we are, in effect, forcing ourselves to take on more expensive road rehab/reconstruction liability in the future. It cost 3 times as much to rehab a road as it does to resurface a road. We can resurface 200-250 miles of road for \$30 million!
3. **Simplify the specification process.** The paving specifications are costly and the cost effectiveness is questionable. Vermont has some of the toughest specs in the nation. Having ridged specs for new construction is one thing, resurfacing is another. Superpave, premium liquids, QC/QA, tedious mix design approvals, compaction specs and smoothness specs all contribute to higher costs with no significant increase in the life cycle. We cannot afford a Cadillac program on a Chevy budget.
2. **Site conditions vs plans on new projects:** If site conditions do not match plan conditions then those delays result in change orders having to be initiated creating time delays. Time delays result in the contractor having to change job procedures in order to keep workforce and equipment performing in a timely and efficient manner. Change orders cause delays and payment for change orders is often delayed and contested by the contractors. The emphasis should be on design relating to actual conditions.
1. **Best way to save money on Transportation Projects is to maintain what we have and save the cost of replacement due to letting necessary work go too long.**