



Recycling Road Materials

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The concept of recycling in road and street management is not new. In fact, measured by weight, asphalt pavement is the most recycled product in the USA. Yet, there are still salvaged road materials that aren't being reused. Public agencies cannot afford to waste anything at a time when virgin material costs are at record highs and are forecast to rise even higher. Another issue is the growing concern about even getting some road construction materials in the future as resources dwindle.

Despite this, a significant quantity of salvaged road surface pavement is still not being reused. Our local friends observed a fairly large quantity of salvage concrete pavement being buried late this past fall. In some cases, this is done to finish a job and restore a mobile plant site to original use. It would be much better if this material could have been saved for future use.

But, could it be our fault? Did anyone step forward and ask to work out a purchase agreement? A large, general contractor may have no choice but to do this to close a mobile plant site and get final payment for a project. Leftover material may be of little value to that contractor. Sometimes that material can easily be negotiated for and purchased by a local agency. Of course, there may be immediate cost—possibly to remove the material to another site. Or, some responsibility for cleanup and restoration of the site may be assumed if the material can be left where it is until it can be processed for future use. But, the material can be of great value in a future project. Think ahead.



Mitchell stockpiles both salvage asphalt and concrete and then crushes and blends both materials for use as base in new construction.



This material makes excellent quality base aggregate.



In-place recycling of asphalt surfaces is an option to consider in surface rehabilitation.

There is also another way to acquire material for future use as base aggregate in construction. Accept salvage asphalt and concrete pavement, sidewalks and even concrete blocks. Mitchell has been a leader in this for many years. They accept this material at a gated and monitored site adjacent to their city maintenance shop and indiscriminate hauling and dumping is not allowed. You must be careful about monitoring what is hauled to a site such as this. It is not a substitute for the landfill. Also, you must be careful to avoid getting contaminated soil along with salvage pavements and other material. The key is simply to monitor and manage.



This material makes excellent base aggregate. The material is being crushed and processed at Brown County Highway Department. Note the various concrete products that are being recycled.

The tradeoff is that eventually a significant quantity of material will accumulate which costs virtually nothing. A crushing contract can be set up to process the material. Modern crushing and processing equipment will handle surprisingly large pieces of salvage material. Ron Olson, street and sanitation superintendent in the City of Mitchell has proved that a blend of these materials processed by crushing will make excellent base aggregate for city projects. He has used a blend of crushed salvaged concrete and asphalt as base material in new street construction, as replacement material for dig-out repair on existing streets and even as temporary gravel surfacing.

This can be done in much smaller agencies, too. There are thousands of tons of sidewalks, driveways and concrete curbs removed each year. There are also many tons of asphalt removed for utility repairs and replacement as well. Consider setting up a site for accepting and stockpiling this material for eventual use on your projects.

Finally, in-place recycling of asphalt streets and highways is an option many must consider once again. This method of rehabilitation was not as cost effective in the last decade compared to asphalt overlays. However, with rising costs of virgin paving material, in-place recycling to restore profile and ride is a viable option. This method of rehabilitation is generally best combined with adding some virgin base aggregate and/or a liquid asphalt additive to add structural strength in the roadway. Control of the work can be more difficult and it is more weather sensitive during construction than overlay. Yet, the bottom-line cost is what you must compare to determine how to rehabilitate.

The future will definitely bring a huge challenge to maintain a road system with budgets that are often flat, or actually reduced. Recycling of material is one way to cope with this challenge.

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