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WISCONSIN TRANSPORTATION INFORMATION CENTER – LTAP



Ordinary, low tech betterment projects improve roadsides and save maintenance costs.

“It’s pretty much a textbook case of how to do it right.”

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Town of Holland — A case study of managing local roads

LAST APRIL Don Becker was elected Chair of the Holland Town Board, one of three newcomers to the five-member board. Alleged “waste” and “inefficiency” in managing the town’s roads were hot topics at pre- and post-election public meetings.

“I was new to the Board, so my objective was to determine whether we were managing the budget properly to optimize the taxpayers’ investment in the roads,” says Becker. He asked the TIC’s Don Walker and Steve Pudloski for help. They agreed, even though the Center doesn’t have the resources to offer this service generally.

“We tell people to use preventive maintenance, correct drainage problems, rate their roads regularly, plan ahead, work with other governments (like counties), and take advantage of the TIC’s resources,” says Pudloski. As a case study, reviewing the Town of Holland roads program was an opportunity to compare classroom roadway management recommendations to a real world situation.

The TIC team visited the town, did a field review of roads, then talked with Becker, other board members, and Highway Superintendent Roger TeStroete.

“We were genuinely impressed with the overall road program,” says Walker. “They have unusually good pavements. Over seventy percent are in excellent or very good condition.” [Also see “WISLR tools” story page 6.]

“It’s pretty much a textbook case of how to do it right,” Pudloski agrees. “They are doing everything we recommend, and keeping the people they are serving informed and involved.”

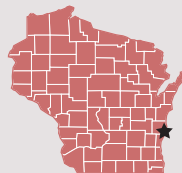
The town, located along Lake Michigan in the southeastern

corner of Sheboygan County, had a 2005 budget of about \$360,000 [see profile below]. With one full-time employee and several part-timers for routine maintenance, they contract for most services, often with the County Highway Department. The budget goes toward plowing and ice control, pavement improvements, bridge repairs, and projects that they call “betterments.”

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PROFILE

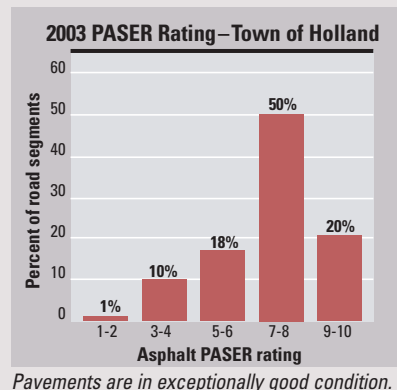
Town of Holland roads program



The Town of Holland is located in the southeast corner of Sheboygan County about 10 miles south of the City of Sheboygan. It is slightly larger than the usual 36 square miles because it includes land abutting Lake Michigan.

LAND USE Most roads abut farms in rolling hills. The remainder serve residential homes on the lake, and the edges of two small villages.

ROADS There are 54.8 miles of road. All but a half-mile are paved with overlays and hot mix. Pavements are 18-20 feet wide with narrow grass shoulders, mostly built in the 1920s and 1930s. Ditches and culverts drain to Lake Michigan via several rivers.



CONDITION Pavements are in exceptionally good condition (see graph). Over 70% are rated *Excellent: 9-10*, or *Very good: 7-8* according to their 2003 PASER ratings. [See related story on page 6]

BUDGET The yearly roads budget has recently been about \$350,000 allocated approximately as follows:

Snow and ice	\$55,000	Project total	\$161,000
Equipment maintenance	\$11,000	– Betterment projects	\$46,000
Routine maintenance (crack filling, brush cutting) .	\$53,000	– Bridge projects	\$30,000
Wages & insurance	\$70,000	– Pavement projects (resurfacing, seal coat & crack seal)	\$85,000

Town of Holland— A case study of managing local roads

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Betterments are a variety of ordinary, low-tech activities designed to preserve the roads in good condition. This includes widening and strengthening shoulders, improving drainage, cutting back severe side slopes, and removing trees. The town generally does not change the road profile except in rare cases where drainage or vision is a serious problem.

One important way they get the most out of their roads budget is by planning ahead. They work under a rolling three-year plan. That gives them plenty of time to coordinate with utilities, consult with landowners, and request services and permits from the county. Resurfacing projects also have a three year cycle: Year 1 – Betterment; Year 2 – Pavement repair and first lift (asphalt leveling course); Year 3 – Top lift (asphalt overlay).

Betterments

“We noticed that the snow plowing budget has been going down,” says Walker. “That’s directly because of the betterment program.” TeStroete had recommended targeting roads that regularly needed extra service, like a second pass with the plow and salt truck.

“We concentrated on roads that would cut down on maintenance costs. You’d be surprised. You can recover your costs very quickly if you can eliminate those annual expenses,” says TeStroete.

Betterment includes removing trees that are too close to the road. Taking out trees clears a hazard from the roadside and helps extend pavement life by getting rid of shade that keeps ice on the road.

Cutting down high roadside banks that are snow catchers and improving shoulders is another betterment action. Shoulders are widened for safety, flattened for easier maintenance, and strengthened to extend pavement life. Rebuilding helps hold the road in place. When there is no shoulder, the edges start to break down.



Daylighting a road by cutting down trees that shade the pavement reduces winter maintenance and gets damaging ice off the road surface.

In the hilly terrain they save money on shoulder projects by doing “cut and fill”: cutting back high banks at the top and pushing the extra material down to fill in lower spots. “We are actually doing two improvements at once,” says TeStroete.

Ditches are reshaped to improve drainage and create flatter, safer foreslopes. Culverts are extended to eliminate drop-offs; and concrete headwalls that project above the roadway are eliminated,

removing more crash hazards. Utilities are relocated to the outside edge of the right of way.

With hazards gone and roadsides improved, the town roads are safer for all drivers, easier to mow in summer, and faster to plow in winter.

Working with adjacent landowners

The spring before a betterment project, all affected property owners are invited to a meeting.



Before betterment. Narrow, sloping shoulders.



Pavement damage caused by ice in shaded area.

Board members, construction people and TeStroete explain the project, show before and after photos of past projects, and describe the impacts on property owners. Useful pamphlets explain issues like right-of-way and road hazards to landowners. [See *Resources* page 10].

The meeting covers drainage problems, driveways, field entrances, and vision corners. Where possible the town offers to move field entrances to safer

locations, like the top of a hill. They propose to improve drainage by installing or expanding driveway culverts and changing the slopes. The changes will keep both the road and the driveway dry and strong.

Landowner benefits are important. "Certain things we can do will make it better for them, and it doesn't make the project cost more," says TeStroete. For example, adjacent landowners usually appreciate having a flatter, wider lawn area next to the road where they can use a riding mower instead of a hand one, he says. Also, if owners want to keep a particular tree, the town tries to respect that wish.

Improving drainage

Dry roads last longer, as everybody agrees, but when drainage blocks are on private land, the problem is harder to resolve. At the same time, rule changes and DNR regulations have made it difficult for owners to dredge or maintain a waterway that runs through their property. One or two town betterment projects have tackled that challenge.

"They've worked with private property owners, the County Land Conservation department, and DNR to assist with maintaining drainage-ways through properties," says Sheboygan

County Highway Commissioner Roger Laning. "It's unusual. So many times the government entity is reactive. It's refreshing to see a township be proactive."

One problem spot was on Foster Road, in the eastern part of the township. A drainage ditch on private land was silted in, causing water to pond on the road and to build up ice in winter. Environmental regulations made it difficult and expensive for the owner to clear the ditch, because he was required to haul away the fines rather than leave them along side the ditch. When the town cleared the ditch they were able to use the material to build up a nearby shoulder.

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"They put together a plan; they've stuck to it; and it has paid dividends."



New driveway culverts benefit landowners as well as town road.



After betterment. Shoulders wide and flat. Utility poles moved back.



Pavement edges deteriorate when a road lacks shoulders.

Town of Holland

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"It was refreshing to learn that this is pretty well done. The past board and Roger deserve a pat on the back. And now we can go forward."

Improving drainage preserves roads. Having three-year plans helps the town successfully apply for county bridge aids.

The farmer was real receptive because it improved his ability to farm his field," says TeStroete. "We had to go partly on his field to do it, but once we cleaned the ditch properly and put in new pipe, the water could get away.

Planning ahead

"With their betterment program, which has been ongoing for nine years, they plan ahead several years," notes the TIC's Don Walker. "This allows time for coordination with utilities, securing permits, and working with land-owners." They replace culverts a year or so before improving the surface. This gives the soil time to settle through one or more frost cycles. Crack sealing, surface repairs, and a first lift of asphalt all are done a year ahead.

Over the years town board members have actively contributed ideas and selected projects for the long-range plans, with suggestions from TeStroete. Knowing what is coming up means they can act quickly to apply for county bridge improvement aids. This cooperative fund is available to pay half of a township's costs to improve large culverts and bridges.

"Past boards have been very aggressive about trying to maximize that money," says TeStroete.

"The town chair or road committee chairman has to sign paperwork to apply, then you receive the money in the next budget year, when the work is done."

Plenty of lead time also lets town officials use county resource staff effectively. The County Surveyor provides hydraulic analysis for all larger culvert and bridge projects, for example, and the county Ag agents and SCS staff help with drainage and erosion control projects. "They have a very good relationship with the county and take every advantage of their resources and assistance," notes Walker.

County Highway Commissioner Roger Laning sums it up: "They have forward-looking and proactive officials who are aware of various programs out there like the schools that the TIC puts on," he says "They've established a balance of the various roadway maintenance operations and don't focus on one over another. They put together a plan, and by God they've stuck to it, and it has paid dividends. They have been able to show that the plan has worked."

Town Chairman Don Becker is relieved. "I was expecting to hear that there might have been some problems requiring a lot of work and maybe taxpayers' money to fix," he says. "It was refreshing

to learn that this is pretty well done. The past board members and Roger deserve a pat on the back. And now we can go forward."

As they work on next year's budget, the evidence is solid. They have a high quality road system. There is no need for big increases to fix unexpected problems. And they are on track to stabilize or even reduce future payouts for pavement improvements. ■

New WISLR tools improve pavement planning

THE WISCONSIN SYSTEM for Local Roads (WISLR) unveiled new pavement analysis tools in November. The on-line tools help you look at your community's pavement needs today, develop a five-year improvement and maintenance plan, and evaluate how different budget decisions and project selections will affect future road conditions and budgets.

"It's very flexible and easy to use," says TIC staffer Steve Pudloski. "It is better than the old PASERWARE because it is tied directly to the WISLR database. Road managers can update their road inventory data and modify pavement sections at the same time as they do pavement analysis." Pudloski had been responsible for teaching PASERWARE, the TIC's pavement analysis software, and consulting with local roadway managers on how to use it. More than 600 communities were using the program when it was discontinued last spring.

Four WISLR enhancements are especially notable.

- WISLR uses budget dollar amounts instead of average road system ratings to describe current pavement condition, changes over time, and the backlog of needs not met.
- It offers a project list that usually optimizes your budget by giving priority to preventive maintenance.
- It uses real deterioration data from Wisconsin roadways to predict pavement life.
- It creates a series of maps that show current pavement conditions, the projects selected for each year of the 5-year plan, and the type of projects selected, such as sealcoats, resurfacing, etc. ▶

