

Primary Rail Crossing Program



Travis Tinken

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engineering technician
senior**

“We’ve all learned a lot over the last five years,” said Travis Tinken, engineering technician senior involved in the primary rail crossing program. “To perfect the system we talked to DOT district employees, materials people, outside vendors, and the railroad people. It really was a group effort to get the product we were all looking for.”

In the late 1990s all applications for highway-railroad crossing surface repair funding, whether on primary highways, city streets or secondary roads, were placed on a first-come-first-served list. The state surface repair program was handled out of what was then the Maintenance Division. Vehicle traffic, especially heavy truck traffic, causes a majority of the damage to crossing surfaces. Good crossing surfaces benefit the motoring public far more than the railroads. That’s the reason the Road Use Tax Fund and Primary Road Fund are the source of funding for these surface repair projects.

The number of crossing repair applications caused the waiting list to extend to nearly 10 years. Neil Volmer, then-director of the Maintenance Division, established a committee to study how to build better crossings and reduce the waiting list time period. The committee included railroad representatives, city and county engineers, asphalt, soils and bridge people from the DOT, and resident maintenance engineers. As a result, the DOT decided to dedicate \$1 million from the Primary Road Fund just for repairs to the primary highway crossings. The surface repairs needed on these primary rail crossings would be prioritized and the worst fixed first.

In approaching this issue, Volmer strongly believed the DOT and railroads needed to work together, each group using its strengths to make the crossings the best they could be. The DOT has expertise in building good ap-

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proaches to crossings, and the railroads are experts at building track. DOT engineers had ideas about changing the base under the crossing to increase the life of the crossing repairs.

Tinken said of the railroads, “We were asking them to do things they typically hadn’t done on construction projects. In the process we’re taking the crossing down to the base and rebuilding from there using techniques to build a stronger, longer-lasting crossing. We had to prove to them we knew what we were doing.”

Tinken says most of the experimentation with construction techniques took place in the first eight months of the program. He said, “Our product was basically designed during that first construction season in 2000 through a lot of trial and error. The district supervisors (road masters) at the railroad companies all talk to each other, so once we started seeing positive results at the newly rebuilt crossings, the railroads that had been skeptical really started to buy in to our ideas. The maintenance personnel took this new challenge on with ease. We have a great maintenance group out there, they have a lot of great input and take pride in what they do. That is a big part of why this program has succeeded.”

The economics of the program are fairly simple. The DOT analyzed the cost of materials and found that it costs approximately \$365 per foot for crossing repair. The DOT pays the railroads for the materials, and the DOT and each railroad uses its own labor and equipment as its contribution to the program.

Since the roadway has to be shut down to complete the crossing repair, the DOT and railroads

needed to work together to schedule the workload. Mary Jo Key, transportation planner 2 in the Office of Rail Transportation, negotiates the agreements and works with Tinken, DOT district maintenance staff and the railroads to establish priorities and schedules.

“We’re very proud of the level of cooperation with this program. We rely on district maintenance staff input and on the railroad company cooperation to get these repairs done,” said Key. “We’ve actually done 20 to 30 crossings each summer, so next season we’ll only have 10 to 15 new crossing repairs, mostly on routes with moderate to heavy grain hauling. We are down to 185 at-grade highway/railroad crossings on the primary system and we’re pleased that nearly all of them have been rebuilt over the last five years.”

Another cooperative effort has resulted in the maintenance of the rebuilt crossings. The DOT depends on the railroad roadmasters and our own field

supervisors to monitor the crossing surface conditions and alert the Office of Rail Transportation when issues come up. Key works with DOT supervisors to schedule a milling machine if the approach needs attention, or the roadmaster if the track needs tamped to raise the crossing. She says, “Preventative maintenance is the key to prolonging the life of the crossing surfaces.”

Peggy Baer, director of the Office of Rail Transportation, says the program has been a great success. “It’s been an excellent program. When it was first conceived, the decision was made to keep it simple and that’s been a key to the success. We’re convinced the crossings built in this program are constructed to a higher standard and should last longer and serve the public well. We’re seeing some of the cities and counties now prioritizing their crossing repairs and asking for information on the how the primary program works. That tells us we’re doing this the right way.”



Rail crossing repair on Iowa 7 near Fonda