

Road Practice Spotlight

The DGLVR Program implements a wide variety of "Environmentally Sensitive Maintenance" practices to make road and environmental improvements. Below is a summary of some of the commonly used practices:

Adding Drainage Culverts (Crosspipes):

Purpose: Adding drainage culverts is one of the most basic and cost-effective tools used by the Program to break up surface runoff volumes, reduce erosion, and encourage infiltration.

2020: Approximately 516 existing culverts were replaced and 741 were installed where no previous pipe existed

Road Fill

Purpose: Roads become "entrenched" or "sunken" over years of traffic, maintenance, and erosion, often carrying runoff and sediment for long distances to streams. Filling the road is often the best long term drainage solution to achieve sheet flow, provide cover for the crosspipes described above, eliminate the upslope ditch, and encourage infiltration of road runoff.

2020 Stats: Over 395,000 tons of road fill added.

Driving Surface Aggregate (DSA):

Purpose: DSA is designed for maximum compaction to resist erosion and degradation. DSA has been shown to lengthen maintenance cycles and reduce dust and sediment runoff from unpaved roads and is the only approved surface aggregate used by the Program on unpaved roads.

2020 Stats: Over 129,000 tons of DSA placed.

Stream Crossing Replacements

Purpose: The program targets undersized stream culverts and bridges causing environmental problems for replacement. New structures are designed to exceed the bankfull channel width, accommodate better stream function, allow aquatic organism passage, and be more resilient to flood flows.

2020 Stats: 100 stream crossing structures replaced.

Paved Low Volume Roads (LVRs)

Why: In 2014, the Program began to fund projects on paved road with less than 500 vehicles per day. Projects on these paved LVRs are tracked separately from projects on unpaved roads but share many of the same drainage improvement practices such as underdrain, crosspipes, French mattresses, and stream crossing replacements.

2020 Stats: 118 LVR contracts completed totaling \$6.2 million of Program funding plus \$2.6 million of in-kind contributions.



This document was prepared jointly by the PA State Conservation Commission and the PSU Center for Dirt and Gravel Road Studies through a contract with the SCC. Figures are based on GIS data supplied by conservation districts in January 2021. For more information, visit www.dirtandgravelroads.org.



2020 Annual Summary Report Pennsylvania Dirt, Gravel, and Low Volume Road Maintenance Program

After



Before

INSIDE: a review of a construction season like no other

August 2021

Photo: Dewey Road in Crawford County. Believe it or not, the before and after pictures are of approximately the same location. A smaller pipe had been added to the inlet of the existing concrete structure, causing a plunge pool and large scour hole to form UNDER THE ROAD that was threatening the entire structure. An aluminum pipe arch was installed on this ~6% stream and over 3' of streambed material and grade control were installed to establish stream continuity through the structure.



What is the DGLVR Program?

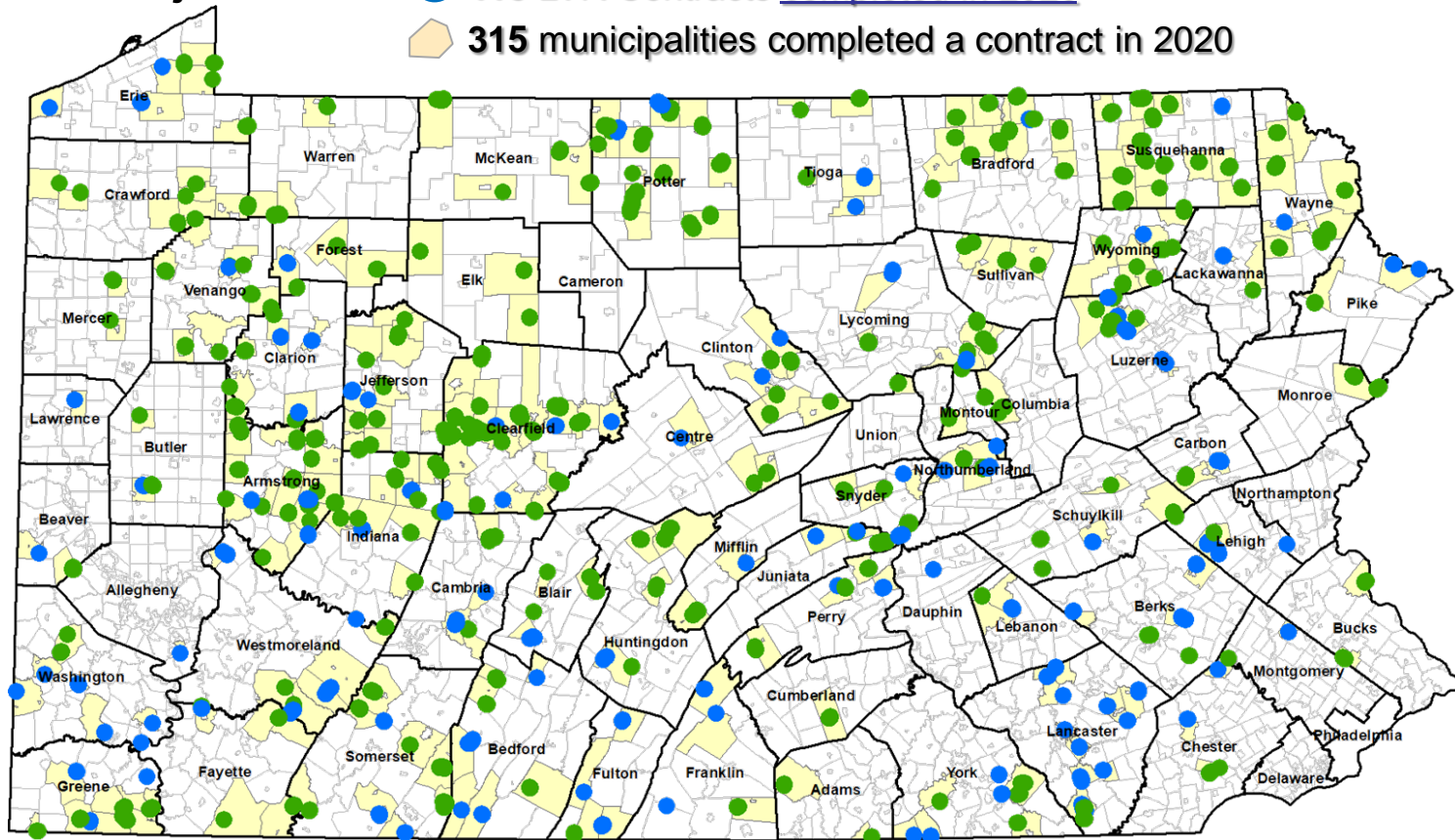
Pennsylvania's Dirt, Gravel, and Low-Volume Road Maintenance Program provides education, technical assistance, and grant funding to local public-road-owning entities throughout the state. The program was expanded in 2014 to dedicate \$20 million to unpaved roads and \$8 million to paved low volume roads (LVRs) traveled by fewer than 500 vehicles per day. The program's goal is to implement Environmentally Sensitive Maintenance Practices aimed at reducing the environmental impacts of public roads, while reducing long-term maintenance costs. The PA State Conservation Commission (SCC) administers the program at the state level, and allocates funding to conservation districts in 65 counties throughout Pennsylvania. Owners of public roads apply for grants to their conservation district, and work with them to complete projects. The Penn State Center for Dirt and Gravel Road Studies (Center) provides education, outreach, and technical assistance for the program. More information is available at: www.dirtandgravelroads.org.

3rd Round of Quality Assurance / Quality Control Visits Complete

The State Conservation Commission's "Quality Assurance / Quality Control" (QAQC) process visits individual conservation districts to evaluate the implementation of the DGLVR Program within each county. The visit entails both administrative and financial components, as well as extensive evaluation of completed projects in the field. Despite COVID complications, the third round of QAQC visits was completed in a modified format in the fall of 2020, keeping on a schedule of visiting each county every three years. In efforts to improve the effectiveness of the QAQC process, SCC staff surveyed conservation districts for improvement suggestions and organized a workgroup to review the process and recommend improvements for round four, which started in April of 2021.

2020 Completed Projects

- 265 Dirt and Gravel Contracts completed in 2020
- 118 LVR Contracts completed in 2020
- 315 municipalities completed a contract in 2020



Map based on county conservation district reporting through GIS system

2020: ADAPTING TO COVID

2020 was a unique year by anyone's standards, and the Program adapted well to the challenges presented by the pandemic:

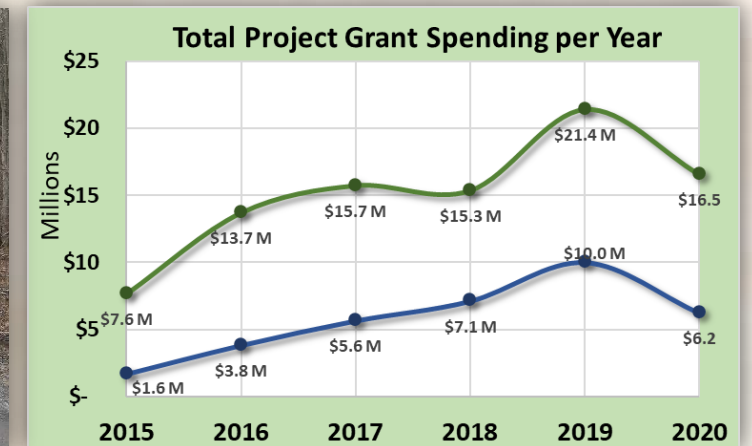
- **Project Work:** Despite a nearly two-month complete shutdown in the spring, the Program managed to complete 383 contracts totaling \$22.7 million dollars in 2020. This is only a slight decrease from a normal year as some projects were delayed due to supply issues.
- **Program Spending:** Conservation districts are required to spend funding within two years of receipt. Despite the challenges and delays presented by the pandemic, all districts met spending requirements are eligible for a FY 21-22 LVR allocation, and only one district did not meet similar requirements for D&G spending.
- **Remote Work:** SCC, Center and district staff all had to adapt to the new remote work environment. Fortunately, outdoor field work was one of the first things approved after the pandemic began, allowing a somewhat normal schedule of projects, field technical assistance, and even a full slate of 23 Quality Assurance / Quality Control visits in 2020 (more QAQC information to the left).
- **ESM Training:** The "core" training required for Program eligibility is the two-day in-person Environmentally Sensitive Road Maintenance (ESM) training. After a shutdown of several months, the decision was made to shorten the course so it could be presented in one day. This allowed 15 in-person one-day ESMs to be held around the state to an attendance limited (25 max) audience. The shortened course also allowed the remote delivery of the course as a live session for the first time in the Program's history. A total of nearly 400 ESM certifications were awarded statewide in 2020, approximately half as many as the previous 3-year annual average.
- **Shift to Remote Learning:** The Program relied heavily on webinars and remote trainings in 2020 to keep in constant communication and provide information to conservation districts. This included a hybrid online/in-person stream crossing boot camp, several online trainings, and over 20 webinars directed primarily at conservation district staff. All webinars and remote trainings were also recorded and posted online for later viewing.
- **Looking Ahead:** 2021 looks bright for the Program in terms of completing projects and staying on schedule with things like technical assistance and modified QAQC visits. The pandemic has also increased the comfort level of everyone involved regarding remote learning and resulted in a library of recorded trainings that have been organized into a "remote learning Center" online.



Masked and socially distanced CD staff attend a live stream crossing installation demonstration in July 2020.



A new 6' oval pipe is lifted into place in Huntingdon County.



Spending on completed projects was down in 2020, but not significantly below the long term expected average.