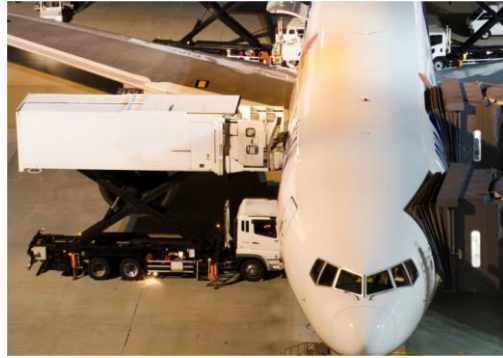


Pennsylvania State Clean Diesel Grant Program Guidelines



pennsylvania
DEPARTMENT OF ENVIRONMENTAL
PROTECTION

Tom Wolf
Governor

Patrick McDonnell
Secretary

Fiscal Year (FY) 2017

2700-MN-DEP4959 5/2018

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May 11, 2018

Dear Friend:

I am pleased to invite you to apply for grant funding available through the Pennsylvania Department of Environmental Protection (DEP) State Clean Diesel Grant Program. The primary goal of the Pennsylvania State Clean Diesel Grant Program is to improve Pennsylvania's air quality by decreasing emissions from diesel-powered engines operating in the Commonwealth. The program, in addition to improving air quality, will also help to create and promote new markets for advanced clean diesel engine technologies.

For this grant opportunity, individuals or organizations that operate diesel-powered fleets will be eligible to receive funding for projects that lower emissions. Fleets that operate across the state are eligible to apply for this funding opportunity. Eligible proposals should include using emission reduction technologies such as idle reduction technologies, retrofit and repower technologies, alternative fuels and alternative fuel vehicles, as well as deployment of fuel-saving technology and vehicle or engine replacements. Applicants are encouraged to work with businesses and equipment vendors within Pennsylvania in completing their projects.

Along with the enclosed application is detailed guidance to assist you in developing project proposals. I encourage you to read through the entire package carefully to ensure that your complete application is prepared to effectively compete for available funding. The deadline for submittal of applications to DEP is 4:00 p.m. on July 6, 2018.

I look forward to funding projects that improve air quality in Pennsylvania. For more information, please contact the Bureau of Air Quality at 717.787.9702.

Sincerely,

A handwritten signature in black ink, appearing to read "Patrick McDonnell".

Patrick McDonnell
Secretary

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What's New and Important Information

Project Funding – There is \$668,697 available from DEP for this round of funding under the Pennsylvania (PA) State Clean Diesel Grant Program. A portion of this funding, \$275,479, is from the settlement of a lawsuit with Volkswagen and its subsidiaries, relating to diesel vehicle emission violations, and is being used as the Commonwealth's voluntary match funding under the Diesel Emission Reduction Act (DERA) program.

Project Period – The project period end date is September 30, 2018. Extensions may be possible; extension requests will be evaluated on a case-by-case basis by DEP. Without extensions, the project period will be approximately 6 months.

Submission Format – The application is now an online application. See the PA State Clean Diesel Grant Application Instructions document for details on applying for funding. Changes were also made to the attachment requirements. The changes to the attachments include incorporating the separate attachments required previously into questions in the online application. Additionally, the Applicant Fleet Description, formerly "Attachment D: Vehicle/Equipment Description Reporting Form," has been revised, and will be available to download and upload with the online application.

Application Scoring – The application scoring matrix and scoring instructions are included in this document.

Application Submission Period – The application submission period for this second round of funding begins upon publication of the notice of availability in the *Pennsylvania Bulletin* and application submission period ends 4:00 p.m. July 6, 2018.

Webinar – DEP staff will host a webinar during the application period to answer questions from applicants. Please see Section VII for instructions on how to access the webinar. The webinar will be recorded and posted on DEP's website.

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FY2017 Application, Instructions, and Attachments are separate documents. See the FY2017 Application Instructions for guidance on completing the Application and Attachments.

Pennsylvania State Clean Diesel Grant Program

I. Funding Opportunity Description

A. Background

Reducing emissions from diesel engines is one of the most important air quality challenges facing the Commonwealth of Pennsylvania (Commonwealth or PA) and the country as a whole. Pennsylvania, as one of the most populous states in the country, has one of the largest vehicle populations, including a large population of diesel vehicles and equipment. Pennsylvania also contains a number of areas with high population densities where diesel vehicles congregate.

Pennsylvania is a major freight corridor, for both rail and trucking, for the Northeast United States. Pennsylvania contains many interstate highways that provide quick access to major north-south and east-west routes and the economically significant Northeast United States for all truck drivers traveling in the Commonwealth. There are approximately 210,000 heavy-duty diesel trucks registered in Pennsylvania, but the number actually operating in or traveling through Pennsylvania is likely two to three times greater than the number of registered vehicles.

Pennsylvania also has warehouses, intermodal facilities, several international airports, three ports used by commercial marine vessels, numerous railroads, and is a major destination for freight transport to and from these facilities. Many of these facilities also utilize diesel nonroad vehicles and engines. The diesel population of large nonroad vehicles and engines in Pennsylvania in 2017 was approximately 159,890¹. The actual number is likely higher in Pennsylvania due to increased oil/gas drilling activities and forestry activities associated with the recent drilling boom in Pennsylvania. In addition to freight, Pennsylvania also has a significant commuter rail system, including both systems run by transit agencies and Amtrak lines crossing the Commonwealth.

Pennsylvania has 38 fixed-route transit systems, including the 6th and 26th largest in the United States². Pennsylvania Department of Transportation (PennDOT) records indicate that 7,984 transit buses and 19,031 school buses were registered in the Commonwealth in 2017.³

New standards for diesel vehicles and equipment promulgated by the U.S. Environmental Protection Agency (EPA) will ensure that new medium-duty and heavy-duty diesel engines will be less polluting. Many of these diesel engines, however, can operate for 25 to 30 years before replacement is required, so it may be many years before existing equipment is replaced with new, cleaner equipment due to normal fleet turnover. A large population of older diesel engines unaffected by the new standards will continue to operate in the Commonwealth into the future. Many strategies and programs exist to make these engines operate more cleanly. Replacing, retrofitting, or repowering older diesel vehicles and engines are cost-effective strategies to reduce emissions of fine particulate matter (PM_{2.5}) and precursor pollutants for the formation of PM_{2.5} and ozone, including nitrogen oxides

¹ NONROAD2008 Model, Pennsylvania Population File, 2015 to 2025 growth extrapolated for 2017.

² American Public Transportation Association, 2016 Public Transportation Fact Book, February 2017, Table 3.

³ Pennsylvania Department of Transportation vehicle registration data, CY2017.

(NO_x) and volatile organic compounds (VOC), by as much as 90 percent or more.

According to EPA's 2014 National Emission Inventory, in 2014⁴ diesel emissions from on-road and nonroad diesel-powered mobile sources (including marine, rail, and aviation) in the United States accounted for approximately 4,780,228 tons per year (tpy) of NO_x, 227,548 tpy of PM_{2.5}, 282,162 tpy of PM₁₀ and 417,926 tpy of VOC. According to the same source, diesel emissions from on-road and nonroad diesel-powered mobile sources (including marine, rail, and aviation) in Pennsylvania accounted for approximately 145,395 tpy of NO_x, 6,742 tpy of PM_{2.5}, 8,145 tpy of PM₁₀ and 13,874 tpy of VOC. To achieve the greatest emission reductions possible, applications receive higher scores for higher emission reductions.

To protect public health and air quality, the EPA is authorized by the Diesel Emission Reduction Act (DERA) (42 U.S.C. 16131 et seq.) to allocate funding to state governments to establish grant programs for diesel emission reduction projects. Each state's allocation is dependent upon the number of states participating in each funding year and the total funding allocated to the state allocation portion of the program each year. PA's program is the PA State Clean Diesel Grant Program, administered by the PA Department of Environmental Protection (DEP).

B. Scope of Work

The primary goal of the PA State Clean Diesel Grant Program is to improve the Commonwealth's air quality by decreasing emissions from diesel-powered mobile sources through funding diesel emission reduction projects. This goal supports EPA's 2014-2018 Strategic Plan Goal 1, Objective 1.2, 'Improve Air Quality,' which states, "achieve and maintain health- and welfare-based air pollution standards and reduce risk from toxic air pollutants and indoor air contaminants." DEP will consider projects in all of the categories listed below as eligible projects. A single proposal may target multiple fleets, fleet types, and/or diesel emission reduction solutions. Eligible diesel emission reduction solutions include, but are not limited to: verified emission control technologies such as exhaust controls; engine upgrades; verified idle reduction technologies; certified engine replacements; aerodynamic technologies; and/or certified vehicle or equipment replacement. Eligible diesel vehicles, engines, and equipment may include buses, medium-duty or heavy-duty trucks, nonroad engines, equipment or vehicles (used in construction, cargo handling, agriculture, mining or energy production), marine engines and locomotive engines. See full eligibility information for applicants and projects in Section III. Eligibility Information.

II. Award Information

A. Available Funding

The PA State Clean Diesel Grant Program is primarily funded through the EPA's State Clean Diesel Program. Additional or other sources of state funding, when available, may also be applied to the PA State Clean Diesel Grant Program. The fiscal year (FY) 2017 funding available under the State Clean Diesel Grant Program is \$688,697. Multiple projects may be funded from the total available. Partial funding is also possible, if deemed

⁴ To access EPA's 2014 National Emission Inventory data, see: <https://www.epa.gov/air-emissions-inventories/2014-national-emissions-inventory-nei-data>

appropriate by DEP staff.

B. Project Period

The project period for the FY 2017 PA State Clean Diesel Grant Program will be from the date a grant agreement is fully executed, unless an earlier date is agreed to in writing, to September 30, 2018. Project period extensions may be allowed past September 30, 2018.

Any applicant who begins a project and incurs costs before receiving a fully executed grant agreement does so at their own risk.

C. Funding Type

The PA State Clean Diesel Grant Program is offering funding as a reimbursement grant program. This means a grantee will pay all project costs and submit proof that project invoices have been paid and proof of project work completion to DEP for reimbursement. DEP will not approve reimbursement requests for unpaid invoices. Detailed invoice requirements and submission instructions will be included in the grant agreement with successful applicants.

D. Technology Compatibility

Technology changes will not be allowed after a project has been selected for funding. If technology compatibility issues arise, DEP may elect to terminate the grant agreement, at which time any funding received by the grantee must be returned to DEP, unless otherwise stated in writing by DEP.

III. Eligibility Information

A. Eligible Applicants

Organizations that operate eligible diesel-powered fleets throughout the Commonwealth may apply to the PA State Clean Diesel Grant Program. Eligible organizations include:

1. Businesses – corporations, partnerships, sole proprietorships, limited liability companies, business trusts or other legal business entities incorporated in or registered with the PA Department of State, Bureau of Corporations and Charitable Organizations, to do business in the Commonwealth.
2. Incorporated Nonprofit – an organization as described in section 501(c)(3) of the Federal Internal Revenue Code of 1954, as amended. The organization must be incorporated under PA law or registered with the PA Department of State, Bureau of Corporations and Charitable Organizations, to do business in the Commonwealth.
3. School Districts.
4. Municipal Governments and Municipal Authorities.
5. Other State Agencies.
6. Local, Regional or Multi-State Air Quality or Transportation Organizations that include a Pennsylvania state government agency, a municipal government, or a municipal authority as a member, and
 - a. owns or operates a diesel fleet located or operating predominately in Pennsylvania, or
 - b. have partnered with or is acting as a project manager for another eligible entity listed in this section.
7. Metropolitan or Rural Planning Organizations, as defined by the U.S. Department of Transportation at 49 U.S.C. § 5303(b), that are located in Pennsylvania.

B. Ineligible Applicants

1. Non-profit organizations described in Section 501(c)(4) of the Internal Revenue Code that engage in lobbying activities as defined in Section 3 of the Lobbying Disclosure Act of 1995 are not eligible to apply.
2. Federal government agencies.
3. Individuals applying as individuals, not on behalf of an eligible applicant.

C. Eligible Diesel Vehicles, Engines, and Equipment

Details relating to eligible model years and specific projects, as well as funding restrictions, are presented under the applicable eligible project section. See the glossary for definitions. Eligible vehicles, engines and equipment include the following diesel-powered sources:

1. School buses.
2. Transit buses.
3. Medium-duty or heavy-duty trucks – Class 5 through Class 8.
4. Marine engines.
5. Locomotives.
6. On-road or nonroad engines, equipment or vehicles used in:
 - a. Construction;
 - b. Handling of cargo (including at a port or airport);
 - c. Agriculture;
 - d. Mining; or
 - e. Energy production (not including stationary generators and pumps).

D. Eligible Project Types

See Section IV. Cost Share, Scrappage, and Program Income Requirements for cost-share information for each project type.

1. **Exhaust Controls:** Exhaust controls include pollution control devices installed in the exhaust system (such as oxidation catalysts and particulate matter filters), or systems that include crankcase emission control (like a closed crankcase filtration system). Each applicant requesting funding for diesel particulate filters should datalog the exhaust temperature of all proposed vehicles before an application is submitted, and, if the results indicate that the project is feasible for the vehicles in question, include the results with the submitted application to ensure DEP has adequate evidence to determine whether the project can be completed as proposed. See Section II.D. relating to technology compatibility.

A list of eligible, EPA-verified exhaust control technologies is available at:

<https://www.epa.gov/verified-diesel-tech/verified-technologies-list-clean-diesel>; a list of eligible, California Air Resources Board (CARB) verified exhaust control technologies is available at: <http://www.arb.ca.gov/diesel/verdev/vt/cvt.htm>. Verified technologies proposed for funding under this project type must be specifically named on one of these lists at the time of application submission to DEP and must only be used for the vehicle/equipment application specified on the list. If an applicant is selected for funding, the actual exhaust control technologies used by the grant recipient must be specifically named on one of these lists at the time of acquisition, and used only for the vehicle/equipment application specified on the list.

Table 1: Exhaust Control Eligibility**Medium and Heavy-Duty Trucks, Transit Buses, and School Buses Eligibility**

Current Engine Model Year (EMY)	DOC+/- CCV	DPF	SCR
	+/- Tires and Aerodynamics		
older - 1994	No	No	No
1995 - 2006	Yes	Yes	Yes
2007 to 2009	No	No	Yes
2010 - newer	No	No	No

Nonroad Engines

Current Engine Horsepower	Current Engine Model Year (EMY) and Tier	Verified Exhaust Control
0-50	2005 and Newer; Unregulated – Tier 2	Yes
51-300	1995 and Newer; Tier 0 – Tier 2	Yes
51-300	1995 and Newer; Tier 3	Yes
301+	1985 and Newer; Tier 0 – Tier 2	Yes
301+	1985 and Newer; Tier 3	Yes

2. **Engine Upgrades and Remanufacture Systems:** This project type is only applicable to nonroad, marine, and locomotive engines. Generally, an engine upgrade involves the removal of parts on an engine during a rebuild and replacement with parts that cause the engine to represent an engine configuration which is cleaner than the original engine. Some nonroad and marine engines can be upgraded to reduce their emissions by applying manufacturer upgrades that are retrofits currently verified by EPA or CARB as a package of components demonstrated to achieve specific levels of emission reductions. Some locomotives and marine engines can be upgraded through the application of a certified remanufacture system that is used to rebuild the engine to represent a cleaner engine configuration. Engine upgrades may not be available for all engines, and not all upgrades may achieve an emission reduction benefit. Proposals for upgrades should include a discussion of the availability of engine upgrade kits/systems and indicate the pre- and post-project emission standard levels of the engines to demonstrate that the upgrade will result in an emission reduction benefit.

To be eligible for funding, the upgrade must either be a verified retrofit, as described above, or a certified remanufacture system that will result in an emissions benefit by rebuilding the engine to a cleaner engine configuration. For an engine to be eligible for an upgrade, the engine must be currently operating and performing its intended function. If a certified remanufacture system for a locomotive includes a full engine

replacement, the requirements below in Section III.D.5. (Certified Engine Replacements) will apply. If a certified remanufacture system is applied at the time of rebuild, funds under this award cannot be used for the entire cost of the engine rebuild, but only for the cost of the certified remanufacture system and associated labor costs for installation.

A list of eligible, EPA-verified engine upgrade technologies is available at: <https://www.epa.gov/verified-diesel-tech/verified-technologies-list-clean-diesel>. Lists of certified remanufacture systems for locomotives and marine engines, and additional information on remanufacture systems, are available at: <http://www.epa.gov/compliance-and-fuel-economy-data/engine-certification-data>, and additional information on remanufacture systems, are available at: www.epa.gov/vehicle-and-engine-certification/remanufacture-systems-category-1-and-2-marine-diesel-engines. Technologies proposed for funding under this project type must be specifically named on EPA's list of certified remanufacture systems or EPA or CARB's Verified Exhaust Control Technologies lists at the time of acquisition, and used only for the vehicle/engine applications specified on the lists, to be eligible for funding.

Table 2: Engine Upgrade and Remanufacture System Eligibility

Nonroad Engines

Current Engine Horsepower	Current Engine Model Year (EMY) and Tier	Verified Engine Upgrade
0-50	2005 and Newer; Unregulated – Tier 2	Yes
51-300	1995 and Newer; Tier 0 – Tier 3	Yes
301-750	1985 and Newer; Tier 0 – Tier 3	Yes
751+	1985 and Newer; Tier 0 – Tier 2	Yes

Marine Engines

Current Engine Tier	Certified Remanufacture System	Verified Engine Upgrade
Unregulated – Tier 2	Yes	Yes
Tier 3 - 4	No	No

Locomotive Engines

Current Locomotive Tier	Certified Remanufacture System
Unregulated - Tier 2	Yes
Tier 2+ switcher	Yes
Tier 2+ line haul	Yes
Tier 3 – Tier 4	No

3. **Verified Idle Reduction Technologies:** An idle reduction project is generally defined as the installation of a technology or device that reduces unnecessary idling of diesel vehicles or equipment and/or is designed to provide services (such as heat, air conditioning, and/or electricity) to vehicles and equipment that would otherwise require the operation of the main drive or auxiliary engine(s) while the vehicle is temporarily parked or remains stationary. The reduction in idling will conserve diesel fuel, and must also lower emissions.

Lists of eligible, EPA-verified idle reduction technologies are available at:

<http://www.epa.gov/verified-diesel-tech/smartway-technology>. Technologies proposed for funding under this project type must be specifically named on EPA's SmartWay Verified Technologies list at the time of the application submission to DEP and may only be used for the vehicle/equipment application specified on the list. The technology categories include: auxiliary power units and generator sets, battery air conditioning systems, thermal storage systems, electrified parking spaces (truck stop electrification), fuel-operated heaters, shore connection systems and alternative maritime power, shore connection systems for locomotives, and automatic shutdown/start-up systems for locomotives.

Please note that technologies for the electrification of engines/vehicles/equipment other than those specifically listed on EPA's SmartWay Verified Technologies list cannot be considered verified idle reduction technologies, but those technologies may be eligible as a Replacement (replacement of a diesel-powered engine/vehicle/equipment with an eligible electric engine/vehicle/equipment; see Section III.D.6, below).

- a. **Verified Idle Reduction Technologies on Locomotives:** Idle reduction technologies allow locomotive engine operators to reduce long-duration idling of the main propulsion engine by using an alternative technology.
- b. **Electrified Parking Spaces:** Electrified Parking Spaces (EPS), also known as Truck Stop Electrification (TSE), operate independently of the truck's engine and allow the truck engine to be turned off as the EPS/TSE system supplies heating, cooling, and/or electrical power. The EPS/TSE system provides off-board electrical power to operate:
 - i. an independent heating, cooling, and electrical power system,
 - ii. a truck-integrated heating and cooling system, or
 - iii. a plug-in refrigeration system that would otherwise be powered by the main propulsion engine.
- c. **Marine Shore Power Connection Systems:** Shore power systems allow maritime vessels to "plug into" an electrical power source instead of using diesel main or auxiliary engines while at port. Funding may support new installations, or expansions of existing shore power systems. Due to the unique nature and custom design of marine shore power connection systems, DEP will review and approve the marine shore power connection system proposed by the applicant on a case-by-case basis.
 - i. **Marine Shore Power Criteria:** Projects are eligible for funding on the condition that the following criteria are satisfied:
 - 1) Applicants must attest to compliance with international shore power design standards (ISO/IEC/IEEE 80005-1-2012 High Voltage Shore

- Connection Systems or the IEC/PAS 80005-3:2014 Low Voltage Shore Connection Systems).
- 2) Shore power connection systems must be supplied with electricity from the local utility grid.
 - 3) Demonstration that the proposed system has the capacity, demand, and commitment to be utilized for more than 1,000 MW-hours per year. Smaller projects will be considered if the applicant can demonstrate that project benefits outweigh project costs with a lower level of use.
 - 4) If the project proposal is selected for funding, the final design of the marine shore power connection system will require specific DEP approval prior to purchase and installation.
 - 5) Applicants must commit to reporting usage information to DEP for five years after the system is operational.
 - 6) Shore power capable vessels docked at a berth where shore power is available must be required to turn off the vessel's engines and utilize the shore power system, with limited exceptions for extreme circumstances.
- ii. Marine Shore Power Project Description: Applicants proposing marine shore power connection systems should provide a project description that includes, but is not limited to:
- 1) the annual number of ship visits to berth where the shore power system is to be installed;
 - 2) average hoteling (or idling) time per visit; and
 - 3) information about the fleet of vessels that has, or will have, the ability to use the shore-side connection system, including:
 - a) the estimated annual number of ship visits to the shore power enabled berth that will utilize the shore power system;
 - b) estimated annual hoteling hours using shore power system;
 - c) fuel type and average sulfur content of fuel used in the auxiliary engines for each vessel;
 - d) auxiliary engine and boiler information for each vessel; and
 - e) estimated annual hoteling load requirements (MW-hours).
 - 4) any documented commitment of visits and hours by the fleet of vessels that has, or will have, the ability to use the shore-side connection system; and
 - 5) estimated emission reductions using the step-by-step instructions provided in Appendix B of EPA's Shore Power Port Assessment Report.
 - a) The Shore Power Port Assessment Report, and the calculator tool can be found here: www.epa.gov/ports-initiative/shore-power-technology-assessment-us-ports.
- d. Highway Idle Reduction Technologies: Idle reduction technologies allow highway vehicle operators to reduce long-duration idling of the main propulsion engine by using an alternative technology. Only long-haul Class 8 trucks and school buses are eligible for idle reduction technology projects under the guidelines in Table 3 below.

Table 3: Idle Reduction Technology Eligibility

Locomotives

Current Locomotive Tier	Idle- Reduction Technology
Unregulated - Tier 2	Yes*
Tier 2+ switcher	Yes*
Tier 2+ line haul	Yes*
Tier 3 – Tier 4	No

*Automatic Engine Start-Stop technologies are only eligible to be installed on locomotives certified to Tier 0 or unregulated.

Class 8 Long Haul Trucks and School Buses

Current Engine Model Year (EMY)	Verified Idle Reduction
older - 1994	No
1995 - 2006	Yes
2007 to 2009	Yes*
2010 - newer	No

*Auxiliary Power Units and generators are not eligible on vehicles with EMY 2007 or newer.

4. **Verified Aerodynamic Technologies and Verified Low Rolling Resistance Tires:** To improve fuel efficiency, long haul Class 8 trucks can be retrofitted with aerodynamic trailer fairings, or the fairings can be provided as new equipment options. Certain tire models can provide a reduction in NO_x emissions and fuel savings, relative to the “standard” new tires for long haul Class 8 trucks, when used on all axles.

A list of eligible, EPA-verified aerodynamic technologies is available at: <https://www.epa.gov/verified-diesel-tech/smartway-verified-list-aerodynamic-devices>, and includes:

- a. gap fairings that reduce the gap between the tractor and the trailer to reduce turbulence;
- b. trailer side skirts that minimize wind under the trailer; and
- c. trailer rear fairings that reduce turbulence and pressure drop at the rear of the trailer.

A list of EPA-verified low rolling resistance tires is available at: <https://www.epa.gov/verified-diesel-tech/smartway-verified-list-low-rolling-resistance-lrr-new-and-retread-tire>, and includes both dual tires and single wide tires (single wide tires replace the double tire on each end of a drive or trailer axle, in effect turning an "18" wheeler into a "10" wheeler). Low rolling resistance tires can be used with lower-weight aluminum wheels to further improve fuel savings; however, aluminum wheels are not eligible for funding under this project solicitation.

DEP will fund verified aerodynamic technologies or verified low rolling resistance tires installed on long haul Class 8 trucks ONLY if combined on the same vehicle with the new installation of one or more of the verified exhaust controls funded under this project solicitation, as described in Section III.D.1. The types of aerodynamic technologies and low rolling resistance tires proposed for funding under this category must exist on EPA’s

SmartWay Verified Technologies list for the vehicle/engine application specified in the proposal at the time of proposal submission to EPA. If selected for funding, the actual technologies/tires used by the grant recipient must be specifically named on EPA's SmartWay Verified Technologies list at the time of acquisition, and used only for the vehicle/engine applications specified on the list, to be eligible for funding. Note: Low rolling resistance tires are not eligible for funding where these types of tires have already been installed on the truck.

5. **Certified Engine Replacement:** Engine Replacement includes, but is not limited to, diesel engine replacement with an engine certified for use with diesel or a clean alternative fuel, diesel engine replacement with an electric power source (grid, battery or fuel cell), and/or the replacement of a diesel engine with an electric generator(s) (genset). All-electric (i.e. zero emission) repowers do not require EPA or CARB certification. Proposals for engine replacements should include the pre- and post-project standard emission levels of the engines to be replaced, to ensure that the engine replacement will result in a net emissions reduction.

Nonroad, locomotive, and marine engine emission standards are on EPA's website at: <http://www.epa.gov/emission-standards-reference-guide/epa-emission-standards-nonroad-engines-and-vehicles>.

Highway engine emission standards are on EPA's website at: <http://www.epa.gov/emission-standards-reference-guide/epa-emission-standards-heavy-duty-highway-engines-and-vehicles>.

Engines certified to CARB's Optional Low NO_x Standard may be found by searching CARB's Executive Orders for Heavy-duty Engines and Vehicles, found at: www.arb.ca.gov/msprog/onroad/cert/cert.php.

Table 4: Engine Replacement Eligibility

Nonroad

Current Engine Horsepower	Current Engine Model Year (EMY) and Tier*	Engine Replacement: EMY 2017+*		
		Tier 0 - 3	Tier 4	All-Electric
0-50	2005 and Newer; Unregulated – Tier 2	No	Yes	Yes
51-300	1995 and Newer; Tier 0 – Tier 3	No	Yes	Yes
301-750	1985 and Newer; Tier 0 – Tier 3	No	Yes	Yes
751+	1985 and Newer; Tier 0 – Tier 2	No	Yes	Yes

*Tier 3 and Tier 4 interim (4i) allowed for vehicle/equipment replacement only when Tier 4 final is not yet available from OEM for 2017 model year equipment under the Transition Program for Equipment Manufacturers (TPEM).

Highway

Current Engine Model Year (EMY)	Engine Replacement: EMY 2017+ (2012+ for Drayage)	Engine Replacement: Electric*
older - 1994	No	No
1995 - 2006	Yes	Yes
2007 to 2009	No	Yes
2010 - newer	No	No

*Hydrogen fuel cells are only eligible for repowers for eligible urban transit buses and eligible drayage trucks, as defined in this project solicitation.

6. **Vehicle and Equipment Replacements:** Nonroad and highway diesel vehicles, engines, and equipment can be replaced under this program with newer, cleaner vehicles and equipment that operate on diesel or alternative fuels and use engines certified by EPA and, if applicable, CARB to meet a more stringent set of engine emission standards. Replacement includes, but is not limited to, diesel vehicles/equipment replacement with newer, cleaner diesel, electric (grid, battery or fuel cell), hybrid or alternative fuel vehicles/equipment. All-electric (i.e. zero emission) vehicles and equipment do not require EPA or CARB certification. Marine vessels are not eligible for full vessel replacement.

Replacement of an existing diesel transport refrigeration unit (TRU) consists of replacing the entire existing TRU, including the diesel engine and the compressor/cooling unit, with a newer, cleaner TRU. Replacement of an existing diesel-electric genset consists of replacing the entire existing genset with a new genset, including the existing diesel engine and the existing electric generator component. Marine vessels are not eligible for full replacement.

The following are eligible replacement projects:

- a. **Locomotives and Nonroad Diesel Vehicles and Equipment:** Nonroad diesel vehicles or equipment and locomotives can be replaced with vehicles or equipment powered by a MY 2017 or newer engine certified to EPA emission standards. Previous engine model year engines may be used if the engine is certified to the same emission standards applicable to EMY 2017. All-electric replacements are allowed. Nonroad and locomotive engine emission standards are on EPA's website at: <http://www.epa.gov/emission-standards-reference-guide/epa-emission-standards-nonroad-engines-and-vehicles>.
- b. **Highway Diesel Vehicles and Buses (other than drayage vehicles):** Diesel-powered highway vehicles can be replaced with a vehicle powered by a MY 2017 or newer engine certified to EPA emission standards. All-electric replacements are allowed. Highway engine emission standards are on EPA's website at: <http://www.epa.gov/emission-standards-reference-guide/epa-emission-standards-heavy-duty-highway-engines-and-vehicles>.
- c. **Drayage Vehicles:** Drayage vehicles can be replaced if the following conditions are met:
 - i. The replacement vehicle is defined as a drayage truck (see Section VI. for definitions).
 - ii. The replacement vehicle has a MY 2012 or newer engine certified by EPA.
 - iii. If a proposal for the replacement of drayage trucks is selected for funding,

the grant recipient will be required to establish guidelines to ensure that any existing truck replaced with grant funds has a history of operating on a frequent basis over the prior year as a drayage truck, and to ensure any new truck purchased with grant funds is operated in a manner consistent with the definition of a drayage truck, as defined in Section VI. For an example of sample guidelines, see <https://www.epa.gov/sites/production/files/2017-04/documents/fy17-drayage-truck-sample-guideline.pdf>.

Locomotives

Current Locomotive Tier	Locomotive Replacement: EMY 2017+* or Electric		
	Tier 0+ - 3	Tier 4	All- Electric
Unregulated - Tier 2	No	Yes	Yes
Tier 2+ switcher	No	Yes	Yes
Tier 2+ line haul	No	No	No
Tier 3 – Tier 4	No	No	No

*Previous engine model year engines may be used if the engine is certified to the same emission standards applicable to EMY 2017.

Nonroad

Current Engine Horsepower	Current Engine Model Year (EMY) and Tier	Vehicle/Equipment Replacement: EMY 2017+			
		Tier 0 - 2	Tier 3 - 4i	Tier 4	All-Electric
0-50	2005 and Newer; Unregulated – Tier 2	No	No	Yes	Yes
51-300	1995 and Newer; Tier 0 – Tier 2	No	Yes*	Yes	Yes
51-300	1995 and Newer; Tier 3	No	No	Yes	Yes
301+	1985 and Newer; Tier 0 – Tier 2	No	Yes*	Yes	Yes
301+	1985 and Newer; Tier 3	No	No	Yes	Yes

*Tier 3 and Tier 4 interim (4i) allowed for vehicle/equipment replacement only when Tier 4 final is not yet available from OEM for 2017 model year equipment under the Transition Program for Equipment Manufacturers (TPEM).

Highway and Drayage

Current Engine Model Year (EMY)	Vehicle Replacement: EMY 2017+ (2012+ for Drayage)	Vehicle Replacement: Electric
older - 1994	No	No
1995 - 2006	Yes	Yes
2007 to 2009	No	Yes
2010 - newer	No	No

7. Fleet Expansion, Replacement Criteria, and Normal Attrition

- a. No funds awarded under this program may be used for the purchase of vehicles, engines, or equipment to expand a fleet.
- b. Replacement projects are eligible for funding on the condition that the following criteria are satisfied:
 - i. The replacement vehicle, engine, or equipment will continue to perform the same function and operation as the vehicle, engine, or equipment that is being replaced.
 - ii. The replacement vehicle, engine, or equipment will be of the same type and similar gross vehicle weight rating or horsepower as the vehicle, engine, or equipment being replaced.
 - 1) Nonroad: Horsepower increases of more than 25 percent will require specific approval by DEP prior to purchase, and the applicant may be required to pay the additional costs associated with the higher horsepower equipment.
 - 2) Highway: The engine's primary intended service class must match the vehicle's weight class (i.e. a LHD diesel engine is used in a vehicle with GVWR 16,001 – 19,500 pounds, a MHD diesel engine is used in a vehicle with a GVWR of 19,501 – 33,000 pounds, and an HHD diesel engine is used in a vehicle with a GVWR greater than 33,000 pounds). Exceptions may be granted for vocational purposes; however, the GVWR must stay within 10 percent of the engine's intended service class and any exceptions will require specific DEP approval prior to purchase.
- c. Normal Attrition:
 - i. Engine, vehicle, and equipment replacements that would have occurred through normal attrition are considered to be the result of normal fleet turnover and are not eligible for funding under this program.
 - ii. Normal attrition is generally defined as a replacement that is scheduled to take place within 3 years of the project start date. Normal attrition is typically defined by the vehicle or fleet owner's budget plan, operating plan, standard procedures, or retirement schedule.
 - iii. For example, if a school bus fleet typically retires vehicles after 20 years, a bus that is currently in its 18th or 19th year of service is not eligible for replacement. A bus that is currently in its 17th year of service and has three years of service remaining (as defined by the fleet's retirement schedule) is eligible for replacement.
 - iv. Normal attrition does not include replacements that must occur due to a state or local mandate.

E. Ineligible Vehicles, Engines, Equipment, and Project Types

In addition to the restrictions noted in the eligible project descriptions, the following are ineligible vehicles, engines, and/or equipment:

1. Class 1-4 vehicles (Vehicles with a gross vehicle weight rating (GVWR) of 16,000 or fewer pounds).
2. Non-diesel-powered vehicles, engines, and equipment.
3. Vehicles, engines, and equipment with less than three years of useful life remaining or scheduled for replacement within less than 3 years of the project completion date are not eligible for funding. See Section III.D.7.c. Normal Attrition for additional information about replacement restrictions relating to normal attrition schedules.
4. A bus or medium-duty or heavy-duty highway vehicle that is a MY 1994 vehicle or older.

5. Nonroad engines and equipment that operate 500 hours per year or less.
6. Locomotive or marine engines that operate 1,000 hours per year or less.
7. Marine shore connection system projects that are expected to be utilized less than 1,000 MW-hr/year.
8. Locomotive shore connection system projects that are expected to be utilized less than 1,000 hours/year.
9. Vehicles, engines, or equipment designated for retrofit, repower, or replacement where most of its annual operation time DOES NOT occur within the Commonwealth.
10. Vehicles being replaced or repowered that are not operational or that DO NOT have a valid Pennsylvania state registration, if required.

The following are types of projects that are not eligible for funding:

1. Projects already completed or started prior to submitting an application to DEP.
2. Projects physically located entirely outside of Pennsylvania.
3. Projects that are intended for fleet expansion.
4. The repair or salvaging of a disabled vehicle, or scheduled or routine maintenance and repairs due to accidents or neglect.
5. Projects that were previously funded by a different state or federally funded grant program.
6. Projects that replace or repower an alternative fuel vehicle, engine or equipment.
7. Projects with no measurable environmental net benefit for the Commonwealth.
8. Replacements that would have occurred through normal attrition.
9. Projects for the purchase of single-wide wheels except where a fleet is retrofitting from standard dual tires to SmartWay-verified single-wide low rolling resistance tires. In this case, the cost of single-wide wheels would be acceptable as additional equipment necessary to use the SmartWay verified technology.
10. Projects to purchase of exhaust controls, idle reduction technologies, low rolling resistance tires or advanced aerodynamic technologies if similar technologies have previously been installed on the truck or trailer.
11. Projects to retrofit, replace, upgrade or install idle reduction technologies on eligible locomotives or marine engines that operate less than 1,000 hours per year.

F. Additional Funding Restrictions

No funds awarded under the PA State Clean Diesel Grant Program may be used:

1. To fund the costs of emission reductions that are mandated under federal law, pursuant to 42 U.S.C. 16132(d)(2) or any other federal, state or local mandates. The restriction applies when the mandate takes effect (the effective date) for any affected vehicles, engines or equipment. This restriction does not apply to a mandate in a State Implementation Plan approved by the Administrator under the Clean Air Act. Voluntary or elective emission reduction measures shall not be considered “mandated,” regardless of whether the reductions are included in the State Implementation Plan.
 - a. Specifically, projects involving locomotives and marine engines are not eligible for funding if the emission reductions are required by EPA’s locomotive and marine rule, “Control of Emissions of Air Pollution from Locomotives and Marine Compression-Ignition Engines Less than 30 liters per Cylinder.” Also, projects involving stationary engines will not be considered for funding if the emission reductions proposed for funding are required by EPA’s RICE rule, “National Emission Standards for Hazardous Air Pollutants (NESHAP) for Stationary

Reciprocating Internal Combustion Engines (40 CFR Part 63 Subpart ZZZZ). Projects which include locomotives and/or marine engines and/or stationary engines must provide DEP a clear and concise justification for why/how the proposed emission reduction are not subject to the Restriction for Mandated Measures. The justification must clearly demonstrate that:

- i. the target engines are exempt from any federal requirements; or
 - ii. emission reductions funded under the Program will be implemented prior to the effective date of any applicable federal requirements; and/or
 - iii. emission reductions funded under the Program will not be used to satisfy any applicable federal requirements, but instead are in excess of (above and beyond) those required by the applicable mandate.
- b. Sufficient information must be provided to support the justification, including maintenance records, if applicable.
 - c. Projects involving locomotive, marine, and stationary engines will be evaluated on a case-by-case basis to determine if the proposed project is required by one of the rules cited in Section III.F.1.a. above, based on the information submitted pursuant to Section III.F.1.a.i-iii.
 - d. Provisions of a state or federal consent decree or other litigation resolution are not considered to be federal mandates for the purpose of this project solicitation.
2. As matching funds for other federal grants, lobbying, or intervention in local, state, or federal regulatory or adjudicatory proceedings, and cannot be used to sue the Commonwealth of Pennsylvania or any other government entity.
 3. To cover expenses incurred prior to the project period set forth in any grant agreement funded by the PA State Clean Diesel Grant Program. Additionally, expenses incurred prior to the project period set forth in any grant agreement resulting from this project solicitation are not eligible as a cost-share for proposed projects.
 4. To prepare the PA State Clean Diesel Grant Program grant application.
 5. For vehicle title, registration and inspection fees, permit fees, or any other fees not approved by DEP in writing.
 6. For administrative costs exceeding 15 percent total of project costs.

IV. Cost Share, Scrappage, and Program Income Requirements

The following section identifies the mandatory cost-share requirements, specifically the project costs DEP will reimburse and the project costs that are the responsibility of the applicant. This section also discusses voluntary cost-share options and program income requirements.

A. Mandatory Cost-Share Requirement

The following are the funding limitations and mandatory cost-share requirements for eligible projects, as defined in Section III.D. of this project solicitation:

1. Exhaust Controls: DEP will fund up to 100 percent of the cost (labor and equipment) for an eligible verified exhaust emission control retrofit.
2. Engine Upgrades/Remanufactures: DEP will fund up to 40 percent of the cost (labor and equipment) of an eligible nonroad, locomotive or marine engine upgrade, which include a verified retrofit or a certified remanufacture system. Applicants are responsible for cost-sharing at least 60 percent of the cost of an eligible engine

upgrade. Note: If a certified remanufacture system is applied at the time of rebuild, funds under this award cannot be used for the entire cost of the engine rebuild, but only for the cost of the certified remanufacture system and associated labor costs for installation.

3. Idle Reduction Technologies on Locomotives: DEP will fund up to 40 percent of the cost (labor and equipment) of an eligible verified idle reduction technology on a locomotive. Applicants are responsible for cost-sharing at least 60 percent of the cost of an eligible idle reduction technology on a locomotive.
4. Marine Shore Connection Systems: DEP will fund up to 25 percent of the cost (labor and equipment) of an eligible shore connection system, including the cost of modifications, attachments, accessories, or auxiliary apparatus necessary to make the equipment functional. Applicants are responsible for cost-sharing at least 75 percent of the cost of an eligible shore connection system.
 - a. Eligible marine shore power connection costs include, but are not limited to various components such as cables, cable management systems, shore power coupler systems, distribution control systems, transformers, grounding switches, service breakers, capacitor banks, and power distribution.
 - b. Funding may support new installations, or expansions of existing shore power systems.
 - c. Examples of ineligible costs for marine shore power connection systems include, but are not limited to, shipside modifications to accept shore-based electrical power, electricity costs, and operation and maintenance costs.
 - d. Due to the unique nature and custom design of marine shore power connection systems, DEP will review and approve the marine shore power connection system proposed by the state on a case-by-case basis.
5. Truck Stop Electrification/ Electrified Parking Spaces: DEP will fund up to 30 percent of the cost (labor and equipment) of truck stop electrification (TSE)/ Electrified Parking Spaces (EPS) technologies, including the cost of modifications, attachments, accessories, or auxiliary apparatus necessary to make the equipment functional. Applicants are responsible for cost-sharing at least 70 percent of the cost of a TSE/EPS technology.
 - a. Eligible TSE/EPS costs include, but are not limited to, the purchase and installation of electrical infrastructure or equipment to enable heating, cooling, and the use of cab power for parked trucks, or to enable the use of power for TRUs and auxiliary power systems at distribution centers, intermodal facilities, and other places where trucks congregate.
 - b. Examples of ineligible costs for TSE/EPS include, but are not limited to: on-board auxiliary power units and other equipment installed on trucks; equipment and services unrelated to heating and cooling (e.g., telephone, internet, television, etc.); TRUs; electricity costs; and operation and maintenance costs.
6. Idle Reduction Technologies on Highway Vehicles: DEP will fund up to 25 percent of the cost (labor and equipment) of verified idle reduction technologies on long-haul Class 8 trucks and school buses.
7. Verified Aerodynamic Technologies and Verified Low Rolling Resistance Tires: DEP will not fund stand-alone aerodynamic technologies or low rolling resistance tires. DEP will fund up to 100 percent of the cost (labor and equipment) for verified aerodynamic technologies or verified low rolling resistance tires installed on long haul Class 8 trucks, ONLY if combined on the same vehicle with the new installation of one or more of the Verified Exhaust Controls funded under this project solicitation, as

described in Section III.D.1. Note: Low rolling resistance tires are not eligible for funding where these types of tires have already been installed on a truck.

8. Certified Engine Replacement:

- a. DEP will fund up to 40 percent of the cost (labor and equipment) of an eligible engine replacement with a MY 2017 or newer diesel or alternative fuel engine certified to EPA emission standards. Applicants are responsible for cost-sharing at least 60 percent of the cost.
- b. DEP will fund up to 60 percent of the cost (labor and equipment) of an eligible engine replacement with an electric motor or electric power source. Applicants are responsible for cost-sharing at least 40 percent of the cost.
- c. DEP will fund up to 50 percent of the cost (labor and equipment) of replacing a diesel engine with a MY 2017 or newer engine that is certified to CARB's Optional Low-NO_x Standards of 0.1 g/bhp-hr, 0.05 g/bhp-hr, or 0.02 g/bhp-hr NO_x. Engines certified to CARB's Optional Low NO_x Standards may be found by searching CARB's Executive Orders for Heavy-duty Engines and Vehicles, found at: www.arb.ca.gov/msprog/onroad/cert/cert.php.
- d. The eligible cost of engine replacement includes the cost of modifications, attachments, accessories, or auxiliary apparatus necessary to make the equipment functional, including related labor expenses.
- e. Charges for equipment and parts on engine replacement projects are only eligible for funding if they are included in the certified engine configuration and/or are required to ensure the effective installation and functioning of the new technology, but are not part of typical vehicle or equipment maintenance or repair.
- f. Examples of ineligible engine replacement costs include, but are not limited to: tires, cabs, axles, paint, brakes, and mufflers.
- g. For engine replacement with battery, fuel cell, and grid electric, examples of eligible engine replacement costs include, but are not limited to: electric motors, electric inverters, battery assembly, direct drive transmission/gearbox, regenerative braking system, vehicle control/central processing unit, vehicle instrument cluster, hydrogen storage tank, hydrogen management system, fuel cell stack assembly, and the purchase and installation of electrical infrastructure or equipment to enable the use of power.
- h. Examples of ineligible costs include, but are not limited to, electricity, and operation and maintenance costs.

9. Certified Vehicle/Equipment Replacement:

- a. Locomotive and Nonroad Diesel Vehicles and Equipment: DEP will fund up to 25 percent of the cost of an eligible replacement vehicle or piece of equipment powered by a MY 2017 or newer diesel or alternative fuel engine certified to EPA emission standards. Applicants are responsible for cost-sharing at least 75 percent of the cost.
- b. Highway Diesel Vehicles and Buses (other than Drayage): DEP will fund up to 25 percent of the cost of an eligible vehicle powered by a MY 2017 or newer diesel or alternative fuel engine certified to EPA emission standards. Applicants are responsible for cost-sharing at least 75 percent of the cost.
- c. Low NO_x Vehicles: DEP will fund up to 35 percent of the cost of a replacement vehicle powered by a 2017 model year or newer engine certified to meet CARB's Optional Low-NO_x Standards of 0.1 g/bhp-hr, 0.05 g/bhp-hr, or 0.02 g/bhp-hr NO_x. Engines certified to CARB's Optional Low NO_x Standards may be found

by searching CARB's Executive Orders for Heavy-duty Engines and Vehicles, found at: www.arb.ca.gov/msprog/onroad/cert/cert.php.

- d. Electric Vehicle or Equipment Replacement: DEP will fund up to 45 percent of the cost of an all-electric nonroad vehicle, nonroad piece of equipment or highway vehicle (except drayage). Applicants are responsible for cost-sharing at least 55 percent of the cost.
- e. Drayage Vehicle Replacement: DEP will fund up to 50 percent of the cost of an eligible replacement drayage truck powered by a MY 2012 or newer certified engine. Applicants are responsible for cost-sharing at least 50 percent of the cost.
- f. The eligible cost of a vehicle/equipment replacement includes the cost of modifications, attachments, accessories, or auxiliary apparatus necessary to make the equipment functional.
- g. The cost of additional "optional" components or "add-ons" that significantly increase the cost of the vehicle may not be eligible for funding under the grant; the replacement vehicle should resemble the replaced vehicle in form and function.
- h. For grid electric powered equipment replacements, examples of eligible replacement costs include, but are not limited to, the purchase and installation of electrical infrastructure or equipment to enable the use of power.
- i. Examples of ineligible costs include, but are not limited to, electricity, and operation and maintenance costs.

B. Voluntary Cost-Share

1. Voluntary cost share is a form of leveraging. Leveraging is generally when an applicant proposes to provide its own additional funds/resources or those from third party sources to support or complement the project they are awarded under the competition which are above and beyond the DEP grant funds awarded.
2. While it is not required that an applicant provide a voluntary cost-share (or overmatch if a mandatory cost share applies) beyond DEP's funding and/or any mandatory cost-share as described above, applicants may provide a voluntary cost-share or overmatch to improve the environmental outputs and outcomes of the project.
3. If proposed, the voluntary cost-share or overmatch funds must be indicated in the budget section of the application. If DEP accepts an offer for a voluntary cost-share or overmatch, applicants must meet this funding commitment as a legal condition of receiving DEP funding. The recipient is legally obligated to meet any proposed voluntary cost-share or overmatch that is included in the approved project budget because the grant agreement includes the voluntary cost-share or overmatch. If it does not materialize during grant performance, then DEP may reconsider the legitimacy of the award and/or take other appropriate action compliant with the terms of the grant agreement.

C. Scrappage

The vehicle, equipment, and/or engine being replaced must be scrapped or rendered permanently disabled within ninety (90) days of being replaced.

1. If a Tier 3 nonroad vehicle, equipment and/or engine is replaced, the Tier 3 unit may be retained or sold if the Tier 3 unit will replace a similar Tier 2 or lower nonroad unit, and the Tier 2 or lower nonroad unit will be scrapped. The scrapped unit must currently be in service, operate more than 500 hours per year, and have a similar usage profile as the replaced unit. It is preferred that the scrapped unit currently operates within the same

project location(s) as the Tier 3 unit currently operates, however alternative scenarios will be considered. All equipment must operate within Pennsylvania. Under this scenario, a detailed scrappage plan must be submitted and will require prior DEP approval.

2. Cutting a three-inch by three-inch hole in the engine block (the part of the engine containing the cylinders) is the preferred scrapping method. Other acceptable scrappage methods may be considered and will require prior DEP approval.
3. Disabling the chassis may be completed by cutting through the frame/frame rails on each side at a point located between the front and rear axles. Other acceptable scrappage methods may be considered and will require prior written approval from the DEP Project Officer.
4. Evidence of appropriate disposal (such as digital photos of the engine tag showing serial number, engine family number, and engine model year, and of the destroyed engine block and cut frame rails or other structural components) is required in a final assistance agreement report submitted to DEP.
5. Equipment and vehicle components that are not part of the engine or chassis may be salvaged from the unit being replaced (e.g. plow blades, shovels, seats, tires, etc.). If scrapped or salvaged engines, vehicles, equipment, or parts are to be sold, program income requirements apply.
6. For tire replacement projects, the original tires should be scrapped according to local or state requirements, or the tires can be salvaged for reuse or retreading. If salvaged tires are sold, program income requirements apply.

D. Program Income

1. Program income as defined at 2 CFR §200.80 means gross income received by the grantee or subrecipient that is directly generated by a grant supported activity or earned as a result of the grant award during the period of performance. Under DERA grants, program income is generally limited to the sale of scrapped or remanufactured engines/chassis or salvaged engine/vehicle/equipment components and does not include revenue generated by recipients or subrecipients through the commercial use of vehicles and equipment purchased with grant funds. "Period of performance" is the time between the start and end dates of the period of performance as included in the grant award. Program income earned during the project period shall be retained by the recipient and, in accordance with 2 CFR §200.307 recipient is authorized to use program income as follows:
 - a. Program income may be added to the grant award by DEP and recipient and used to further eligible project or program objectives. The program income shall be used for the purposes and under the conditions of the grant agreement.
 - b. Program income may be used to meet the cost-sharing or matching requirement of the grant award, including any mandatory or voluntary cost-share. The amount of the grant award remains the same.
 - c. Program income may be deducted from the total allowable costs to determine the net allowable costs on which the federal share of costs is based. This means that the recipient shall spend program income on project activities before spending/requesting federal funds for project activities. This may result in unspent federal funds at the end of the project period.
2. The recipient will maintain records adequate to document the extent to which transactions generate program income and the disposition of program income.

V. General Conditions, Reporting, and Project Monitoring

A. Public Disclosure of Application Documents

PA State Clean Diesel Grant Program proposals are public documents and subject to disclosure to the public upon request. Any information included in the application package that the applicant wishes the Commonwealth to consider as proprietary must be on a separate sheet of paper and must be clearly marked as proprietary, in accordance with Section 13.2 of the Pennsylvania Air Pollution Control Act, 35 P.S. Section 4013.2. This section also states that cause must be shown as to why the information should be considered confidential.

B. Additional Conditions

The awarding of grant funding is subject to the following conditions:

1. DEP may consider past performance of applicants who have received state funded grants when determining grant eligibility. DEP reserves the right to not award or withhold funds to applicants that have not completed projects or have failed to adhere to grant agreement requirements, including interim and final reporting requirements, for projects funded by the PA State Clean Diesel Grant Program or other state grant programs. This determination will be made by DEP on a case-by-case basis.
2. All projects must be in compliance with all applicable local, state, and federal laws and must adhere to DEP guidance and policies.
3. Applicants must not have any outstanding obligations (financial or otherwise) to the Commonwealth and must not have any unresolved environmental violations.
4. Grantees must secure all permits or approvals otherwise required for the project to proceed, including permits required by DEP.
5. All projects must be consistent with the applicable provisions of the Keystone Principles for Growth, Investment and Resource Conservation; a description of the Keystone Principles is available at: www.phmc.state.pa.us/bhp/pkp.pdf.

C. Reporting Requirements

1. Quarterly Reports: Quarterly reports will be submitted to DEP within 14 days after the end of each quarter during the project period. Reporting quarters end March 31, June 30, September 30, and December 31. Quarterly reports can be submitted through standard mail or through electronic mail sent to the DEP Program Administrator. Detailed reporting requirements will be established in the grant agreement.
2. Final Report: A final report will be submitted to DEP upon completion of the project, no later than 30 days after the Project Completion Date established by the grant agreement or future amendments. Detailed requirements for the final report will be established in the grant agreement.
3. 1-Year Follow-Up Report: A 1-year follow-up report will be submitted to DEP, at the earliest, one year after the Project Completion Date, but no later than one year and 30 days after the Project Completion Date. Detailed requirements for the 1-year follow-up report will be established in the grant agreement.

D. Financial Monitoring

1. Grantees must properly manage and account for funding received under the PA State Clean Diesel Grant Program and any matching funds provided by the applicant and

any program income generated as a result of the project. Appropriate records must be maintained in order to confirm compliance with the conditions of the grant agreement.

2. No credit will be given for funds spent prior to the period of performance, unless otherwise approved in writing by DEP. All funding must be spent in accordance with the spending plan included in the grant agreement.
3. Extensions of the grant period of performance will not be issued, unless DEP concludes it to be necessary by determination or request.
4. Projects may be subject to PA Prevailing Wage Act requirements.
 - a. Grantees shall ensure, where necessary, that construction projects with a cost in excess of \$25,000 that may be subject to PA's Prevailing Wage Act requirements are paid appropriate wages commensurate with the Act.
 - b. For information about the applicability of the Prevailing Wage Act requirements, applicants should contact the Department of Labor and Industry at 717-787-5279 or 800-932-0665 or visit the website at www.dli.pa.gov. It is solely the responsibility of the grantee to ensure the act is followed, if applicable.
5. DEP reserves the right to terminate the project and/or recover funding from grantees not properly managing the funding in accordance with the conditions of the program and the grant agreement.
6. DEP reserves the right to inspect projects financed with PA State Clean Diesel Grant Program funds and to audit or require a third-party audit of any project's financial transactions or compliance with agreement terms.

E. Project Status and Monitoring

1. Grantees will, in quarterly reports, provide DEP with the status of the project work, as compared to the Work Plan included in the grant agreement.
2. Grantees will be required to provide a status report with each application for reimbursement, as outlined in the grant agreement.
3. DEP may, at any time during the project period, request an update on the status of the project, to ensure that the project activities are being completed according to the project Work Plan included in the grant agreement.
4. Project Completion
 - a. The project must be completed in accordance with the specifics of the grant agreement. Modifications will not be considered, except for very limited scope and budget changes, including, but not limited to: replacements of equal quality and function, and reallocation of contract budget category dollar amounts to and from other budget categories, as long as the maximum contract dollar amount payable by DEP to the recipient is not exceeded. All changes must be approved by DEP.
 - b. Grantees must adhere to scrappage requirements, when applicable. Scrappage requirements will be detailed in the grant agreement.
 - c. In most cases, the project will not be considered complete until an on-site inspection of the project work is performed by DEP to confirm the project work is complete. DEP may waive this requirement and allow confirmation of project work in another form, to be determined on a case-by-case basis. DEP will send written notification to the grantee when it has confirmed that the project work is complete. On-site inspection, or other project confirmation activities, may occur during the project period if project work is completed early, but must occur no later than 30 days after the Project Completion Date, unless otherwise agreed to in writing by DEP.

VI. Application Review, Scoring, and Selection

A. Project Selection

1. All complete applications will be reviewed by DEP staff, based on the criteria listed below in the scoring matrix.
2. Applications with the highest scores, that meet all other requirements, will be considered first for funding.
3. If additional funds remain, additional funding offers will be made to the next highest scoring applicant.
4. If remaining funds are not adequate to meet the funding request of the next highest scoring applicant, DEP will contact the applicant to see if they would accept funding at a lower level than requested in the application.

B. Notification of Applicants

1. All applicants will receive a letter from the DEP Secretary or designee, addressed to the contact person specified in the application, notifying the applicant whether or not they are being offered grant funding.
2. If an application is not selected for funding, the applicant can contact DEP if they wish to discuss the details of why the application was not selected. Applications may not be selected for funding for incomplete applications, lower score ranking than other applications, or lack of funds to award.
3. Successful applicants will be assigned a DEP project advisor; grantees may be required to meet with DEP staff to review contract requirements.
4. After the announcement of a grant award, DEP will forward a grant agreement to the successful applicant. Successful applicants will be required to execute the grant agreement, including a detailed scope of work, project schedule, budget and other information.
5. If applicants selected for funding do not have a DUNS Number or SAP Vendor Number at the time of award announcement, project work cannot begin until registration for both is complete. See the Application Instructions for additional information.

C. Application Review and Scoring

1. DEP will conduct a comprehensive review of the grant application and supporting documentation. DEP will not be responsible for an application that is rejected due to incomplete or inaccurate information. All complete applications will be reviewed and evaluated by a panel of air quality experts using the criteria defined below. Possible points for each item are listed.

Scoring Matrix

Eligibility	Yes/No
Applicant is an Eligible Applicant	
Project is an Eligible Project Type	
Project Fleet is an Eligible Fleet	
Project Can Be Completed by September 30, 2018	
Project is Technically Feasible	
Project Results in Environmental Benefit to the Commonwealth	
Applicant Meets Minimum Match Requirements	

Topic	Possible Points	Score
Applicant a small business Yes: 10 points No: 0 points	0 to 10 points	
Emission Reductions: Under this section, points are awarded based on the percentage of annual emissions reduced from the baseline for each pollutant. 0% reduction - 0 points 1% - 25% reduction - 5 points 26% - 50% reduction - 10 points 51% - 75% reduction - 15 points 76% or greater reduction - 20 points	0 to 20 points for each pollutant (100 points total available)	
Emission Reductions: PM.		
Emission Reductions: NO _x		
Emission Reductions: HC		
Emission Reductions: CO		
Emission Reductions: CO ₂		
Total NO _x Emission Reductions: Under this section, points are awarded based on the total annual NO _x emission reductions of the project. Valid applications will be compared to all other valid applications submitted during each application period and ranked from the most total NO _x emission reductions to the least total NO _x emission reductions. Maximum points available will be the number of applications received (X). The applicant with the highest total emission reductions will receive X points. The next highest applicant will receive (X-1) points and so on.	X points	
Total NO _x Emission Reduction Points		
Fleet Size: Under this section, points are awarded for the number of vehicles or engines in the fleet proposed for retrofit, repower, replacement or other modification under the grant program.	5 to 15 points	
Fleet Size (Vehicles and/or Engines): 1 to 4 - 5 points		
Fleet Size (Vehicles and/or Engines): 5 to 8 - 10 points		
Fleet Size (Vehicles and/or Engines): Greater than 8 - 15 points		

Match Funding: Under this section, points are awarded based on whether the applicant meets or exceeds match requirements. Match requirements are specific to each project type. Applicants must meet minimum match requirements and provide proof of the matching funds.	0 to 10 points	
Match Funding - Meets Match Requirement or Exceeds Match Requirement by less than 5% Above Requirement - 0 points		
Match Funding - Exceeds Match Requirement 5-10% Above Requirement - 5 points		
Match Funding - Exceeds Match Requirement by More Than 10% of Requirement - 10 points		
Project Location: Under this section, points are awarded based on the location of the project.	0 to 50 points	
Located in an Act 47 Financially Distressed Municipality - 5 points		
Located in a Brownfield - 5 points		
Located in an Environmental Justice Area - 10 points		
Located in a Priority Area - 5 points		
Located in a High Pollution Area - 5 points		
Population Density: High Population Density Area - 10 points Medium Population Density Area - 5 points Low Population Density Area - 0 points		
Traffic Density: High Traffic Density Area - 10 points Low Traffic Density Area - 0 points		
Project Narrative – See application instructions for details. Business Description - 0 to 5 points Fleet Description - 0 to 10 points Proposed Project Detailed Description - 0 to 10 points Work Plan with Schedule - 0 to 10 points.	0 to 35 points	
Applicant Fleet Description – Points are awarded for filling out all of the mandatory information. See Section 19.b. of the instructions for what information is mandatory. All mandatory information complete - 5 points Mandatory information incomplete - 0 points	0 to 5 points	
TOTAL POINTS	6 to (225+X¹) points	

1 – Dependent on number of applicants. Total possible points will increase by the number of applicants (X).

VII. Webinar Information

DEP staff will facilitate a webinar (web-based information session) for the FY2017 PA State Clean Diesel Grant Program on June 6, 2018 to provide general information about the grant program and to answer any questions from attendees relating to the program, including questions about the application and instructions. A link to register for the webinar is available at <http://www.dep.pa.gov/Business/Air/BAQ/Pages/default.aspx> under the ‘Grant Availability’ heading. Interested parties can also register for the webinar at <http://www.dep.pa.gov/dataandtools/webinars/pages/default.aspx>. The webinar will be recorded and posted online on the same webpage.

VIII. How to Apply

- A. DEP is accepting applications for the PA State Clean Diesel Grant Program. The application opportunity and the due date are announced in the *Pennsylvania Bulletin* (May 19, 2018) and on the DEP website. Applicants will not be able to submit their application unless all required information is completed. DEP may also offer an additional opportunity to apply for funds through the PA State Clean Diesel Grant Program within the same fiscal year. Any additional application opportunity and application deadline will be announced by a notice published in the *Pennsylvania Bulletin* and on the DEP website.
- B. See the PA State Clean Diesel Grant Application Instructions for step-by-step directions for applying for the PA State Clean Diesel Grant Program. The PA State Clean Diesel Grant Application must be submitted through the Department of Community and Economic Development’s (DCED) Electronic Single Application website, also referred to as the eGrants application system, found at: <https://www.esa.dced.state.pa.us/Login.aspx>.
- C. Applications must be submitted online by 4:00 p.m. July 6, 2018.
- D. Late submittals will not be accepted.
- E. DEP Assistance and Contacts
 - 1. Questions regarding the application process, including signing up for access and any issues with completing the online application should be directed to the DCED Customer Service Center at 1-800-379-7448. They are open 8:30 am-5:00 pm EST Monday thru Friday.
 - 2. Any questions about the contents of the application questions, deadlines, and webinar registration should be directed to Samantha Harmon at 717.705.7686 or by e-mail at saharmon@pa.gov.

IX. Glossary

Alternative fuel - gaseous fuels such as hydrogen, natural gas, and propane; alcohols such as ethanol, methanol, and butanol; vegetable and waste-derived oils; and electricity. Other fuels may be considered for replacement projects on a case- by-case basis by DEP.

Bus - a motor vehicle with motive power (except a trailer) designed to carry more than 10 individuals.

1. For the purposes of this application and guidance, the term bus includes school buses of Type A, B, C, and D. School buses are defined as “a passenger motor vehicle designed to carry a driver and more than 10 passengers, that the Secretary of Transportation decides is likely to be used significantly to transport preprimary, primary, and secondary school students to or from school or an event related to school. (49 U.S.C. 30125)
2. For the purpose of this application and guidance, the term bus also includes medium- and heavy-duty transit or urban buses. See ‘medium- and heavy-duty highway vehicle’ definition.

CARB - California Air Resources Board.

CFR - Code of Federal Regulations.

Closed Crankcase Ventilation System/CCV System - a system designed to channel the very small amount of the gases that leak by the compression rings on each cylinder during the ignition cycle of the engine (blow-by) from the combustion chambers of an internal combustion engine back into the combustion chamber, in order to thoroughly burn its contaminants which reduce the amount of pollution the engine produces and to utilize power derived by reigniting the fuel that had previously escaped.

Commonwealth - Commonwealth of Pennsylvania.

Diesel fuel - a fuel that is commonly or commercially known, sold or represented as diesel fuel, including any mixture of primarily liquid hydrocarbons that is sold or represented as suitable for use in an internal combustion, compression-ignition engine.

Diesel Particulate Filter/DPF - exhaust after-treatment devices that significantly reduce emissions from diesel fueled vehicles and equipment. DPFs typically use a porous ceramic or cordierite substrate or metallic filter, to physically trap particulate matter (PM) and remove it from the exhaust stream.

Diesel Oxidation Catalyst/DOC - exhaust after-treatment devices that reduce emissions from diesel fueled vehicles and equipment. DOCs generally consist of a precious metal coated flow- through honeycomb structure contained in a stainless-steel housing. As hot diesel exhaust flows through the honeycomb structure, the precious metal coating causes a catalytic reaction that breaks down pollutants into less harmful components.

DEP - Pennsylvania Department of Environmental Protection.

DERA - Diesel Emission Reduction Act, a federal program that provides funding to support projects that reduce harmful emissions from diesel engines.

Drayage Truck - any Class 8b in-use on-road vehicle with a gross vehicle weight rating (GVWR) of greater than 33,000 pounds operating on or transgressing through port or intermodal rail yard property for the purpose of loading, unloading or transporting cargo, such as containerized, bulk or break-bulk goods.

Electric vehicle or equipment - A vehicle or engine that uses electric motors and motor controllers for propulsion or operation of mechanical equipment in place of more common power sources such as the internal combustion engine (ICE).

Engine upgrade - the process of removing parts on a certified engine configuration and replacing them with parts that cause the engine to represent an engine configuration which is certified to meet more stringent federal emission standards. Generally, engines are able to be upgraded to a cleaner EPA-certified configuration through the application of a “kit.”

EPA - United States Environmental Protection Agency

Exhaust controls - pollution control devices installed in the exhaust system (such as oxidation catalysts and particulate matter filters), or systems that include crankcase emission control (like a closed crankcase filtration system).

Grantee - an applicant that has an executed PA State Clean Diesel Grant Program grant agreement with DEP.

GVWR - Gross Vehicle Weight Rating - the value specified by the manufacturer as the loaded weight of a single vehicle.

Idle reduction technology - technologies that provide power to the vehicle that would otherwise be provided by idling of the main propulsion engine; this technology includes systems designed for stationary or mobile use.

Hybrid electric vehicle (HEV) - a motor vehicle that draws propulsion energy from onboard sources of energy that are both:

1. an internal combustion engine using combustible fuel, and
2. a rechargeable energy storage system.

Medium- and Heavy-Duty Highway Vehicles - includes Class 5-8 vehicles, based on GVWR

1. Class 5: 16,001 – 19,500 pounds GVWR
2. Class 6: 19,501 – 26,000 pounds GVWR
3. Class 7: 26,001 – 33,000 pounds GVWR
4. Class 8a: 33,001 – 60,000 pounds GVWR
5. Class 8b: 60,001 pounds GVWR and over

MY - Model year

Non-road engine and equipment - an internal combustion engine or a gas turbine engine used for other purposes than being an engine of a vehicle operated on public roadways, or equipment utilizing such an engine.

Ozone - a pollutant formed by chemical reactions between oxides of nitrogen (NO_x) and volatile organic compounds (VOC) in the presence of sunlight.

PA State Clean Diesel Grant - monies allocated from the PA State Clean Diesel Grant Program fund for a project approved by DEP.

PM_{2.5} - fine particulate matter with particles that have a diameter of 2.5 microns or less and the precursor emissions that contribute to the formation of fine particulate matter.

Replacement - early replacement of non-road and highway diesel vehicles, engines and equipment with newer, cleaner vehicles, engines and equipment that operate on diesel, alternative fuels, or all-electric and use engines certified by EPA and/or CARB, if applicable, to meet a more stringent set of engine emissions standards.

Retrofit technology - technologies that can be installed on existing diesel-powered vehicles that reduce emission levels of one or more pollutants. Retrofit technologies include but are not limited to exhaust controls and engine upgrades.

Selective Catalytic Reduction/SCR - an advanced active emissions control technology system that injects a liquid-reductant agent through a special catalyst into the exhaust stream of a diesel engine. The reductant source is usually automotive-grade urea, otherwise known as Diesel Exhaust Fluid (DEF). The chemical reaction is known as "reduction" where the DEF is the reducing agent that reacts with NO_x to convert the pollutants into nitrogen, water and tiny amounts of CO₂.

TRU - transport refrigeration unit. Usually used in conjunction with a tractor hauling goods that require refrigeration or freezing.

Appendix 1: Population Density

This document defines high population density as equal to or greater than 5,000 residents per square mile. Medium population density is defined as 2,000 to less than 5,000 residents per square mile. Low population density is defined as fewer than 2,000 residents per square mile. These designations are based on data from the 2010 U.S. Census⁵. Read the columns top to bottom, left to right.

Note: If your municipality is located in multiple counties, the designations below are for the portion of the municipality in the county indicated.

High Population Density Areas

Adams County

Mcsherrystown Borough

Allegheny County

Aspinwall Borough
Avalon Borough
Bellevue Borough
Brackenridge Borough
Brentwood Borough
Castle Shannon Borough
Chalfant Borough
Crafton Borough
Dormont Borough
East McKeesport Borough
Edgewood Borough
Homestead Borough
Ingram Borough
McKees Rocks Borough
Millvale Borough
Mount Lebanon Township
Mount Oliver Borough
Pennsbury Village Borough
Pitcairn Borough
Pittsburgh City
Sharpsburg Borough
Swissvale Borough
Turtle Creek Borough
West View Borough
Wilkinsburg Borough
Wilmerding Borough

Armstrong County

No Qualifying Municipalities

Beaver County

New Brighton Borough
Rochester Borough

Bedford County

Coaldale Borough

Berks County

Boyertown Borough
Mount Penn Borough
Reading City
Shillington Borough
West Reading Borough

Blair County

No Qualifying Municipalities

Bradford County

No Qualifying Municipalities

Bucks County

Bristol Borough
Pennel Borough
Richlandtown Borough

Butler County

Butler City

Cambria County

Dale Borough

Cameron County

No Qualifying Municipalities

Carbon County

No Qualifying Municipalities

Centre County

State College Borough

Chester County

Coatesville City
Kennett Square Borough
West Chester Borough

Clarion County

No Qualifying Municipalities

Clearfield County

No Qualifying Municipalities

Clinton County

No Qualifying Municipalities

Columbia County

No Qualifying Municipalities

Crawford County

No Qualifying Municipalities

Cumberland County

Shiremanstown Borough

Dauphin County

Harrisburg City
Penbrook Borough
Williamstown Borough

⁵ U.S. Department of Commerce. (2012). *Pennsylvania: 2010 – Population and Housing Unit Counts – 2010 Census of Population and Housing*. Washington, D.C. U.S. Government Printing Office

Appendix 1: Population Density

Delaware County

Aldan Borough
Chester City
Clifton Heights Borough
Collingdale Borough
Colwyn Borough
Darby Borough
Darby Township
East Lansdowne Borough
Folcroft Borough
Glenolden Borough
Lansdowne Borough
Media Borough
Millbourne Borough
Morton Borough
Norwood Borough
Parkside Park Borough
Prospect Park Borough
Ridley Park Borough
Ridley Township
Rutledge Borough
Sharon Hill Borough
Upper Darby Township
Yeadon Borough

Elk County

No Qualifying Municipalities

Erie County

Erie City
Wesleyville Borough

Fayette County

Uniontown City

Forest County

No Qualifying Municipalities

Franklin County

No Qualifying Municipalities

Fulton County

No Qualifying Municipalities

Greene County

Waynesburg Borough

Huntingdon County

No Qualifying Municipalities

Indiana County

Indiana Borough

Jefferson County

No Qualifying Municipalities

Juniata County

Mifflintown Borough

Lackawanna County

No Qualifying Municipalities

Lancaster County

Lancaster City

Lawrence County

No Qualifying Municipalities

Lebanon County

Lebanon City

Lehigh County

Allentown City
Coplay Borough
Fountain Hill Borough

Luzerne County

Freeland Borough
Kingston Borough
Plymouth Borough
West Pittston Borough
Wilkes-Barre City

Lycoming County

No Qualifying Municipalities

McKean County

No Qualifying Municipalities

Mercer County

No Qualifying Municipalities

Mifflin County

No Qualifying Municipalities

Monroe County

No Qualifying Municipalities

Montgomery County

Ambler Borough
Bridgeport Borough
Conshohocken Borough
East Greenville Borough
Hatboro Borough
Hatfield Borough
Jenkintown Borough
Lansdale Borough
Narberth Borough
Norristown Borough
North Wales Borough
Rockledge Borough
Royersford Borough

Souderton Borough

Telford Borough (Part)

Montour County

Washingtonville Borough

Northampton County

Easton City
Wilson Borough

Northumberland County

Mount Carmel Borough
Shamokin City

Perry County

Newport Borough

Philadelphia County

Philadelphia City

Pike County

No Qualifying Municipalities

Potter County

No Qualifying Municipalities

Schuylkill County

Frackville Borough
Mahanoy City Borough
McAdoo Borough
Minersville Borough

Snyder County

No Qualifying Municipalities

Somerset County

No Qualifying Municipalities

Sullivan County

No Qualifying Municipalities

Susquehanna County

No Qualifying Municipalities

Tioga County

No Qualifying Municipalities

Union County

Lewisburg Borough

Venango County

No Qualifying Municipalities

Warren County

No Qualifying Municipalities

Appendix 1: Population Density

Washington County

Charleroi Borough
McDonald Borough (Part)
North Charleroi Borough

Westmoreland County

Arnold City
East Vandergrift Borough
Southwest Greensburg Borough

York County

Dallastown Borough
North York Borough
West York Borough
York City

Wayne County

No Qualifying Municipalities

Wyoming County

No Qualifying Municipalities

Medium Population Density Areas

Adams County

East Berlin Borough
Gettysburg Borough
Littlestown Borough
New Oxford Borough
York Springs Borough

Allegheny County

Baldwin Borough
Baldwin Township
Ben Avon Borough
Ben Avon Heights Borough
Bethel Park Municipality
Blawnox Borough
Braddock Borough
Bridgeville Borough
Carnegie Borough
Cheswick Borough
Clairton City
Coraopolis Borough
Duquesne City
East Pittsburgh Borough
Elizabeth Borough
Emsworth Borough
Etna Borough
Forest Hills Borough
Glassport Borough
Green Tree Borough
Heidelberg Borough
McKeesport City
Munhall Borough
North Braddock Borough
Oakdale Borough
Oakmont Borough
Penn Hills Township
Pleasant Hills Borough
Port Vue Borough
Rankin Borough
Ross Township
Scott Township
Sewickley Borough
Shaler Township
Springdale Borough
Stowe Township
Tarentum Borough

Verona Borough
Versailles Borough
West Elizabeth Borough
West Homestead Borough
Whitaker Borough
Whitehall Borough
Wilkins Township

Armstrong County

Ford City Borough
Ford Cliff Borough
Kittanning Borough
Leechburg Borough
Manorville Borough
North Apollo Borough
South Bethlehem Borough
West Kittanning Borough

Beaver County

Aliquippa City
Ambridge Borough
Beaver Borough
Beaver Falls City
Darlington Borough
Eastvale Borough
Freedom Borough
Monaca Borough
Patterson Heights Borough
Pulaski Township

Bedford County

Bedford Borough
Hopewell Borough
New Paris Borough
Pleasantville Borough
St. Clairsville Borough
Woodbury Borough

Berks County

Bally Borough
Bernville Borough
Birdsboro Borough
Centerport Borough
Fleetwood Borough

Hamburg Borough
Kenhorst Borough
Kutztown Borough
Laureldale Borough
Leesport Borough
Mohnton Borough
Robesonia Borough
Shoemakersville Borough
Sinking Spring Borough
St. Lawrence Borough
Strausstown Borough
Topton Borough
Wernersville Borough
Womelsdorf Borough
Wyomissing Borough

Blair County

Altoona City
Bellwood Borough
Duncansville Borough
Hollidaysburg Borough
Martinsburg Borough
Newry Borough
Roaring Spring Borough
Tyrone Borough
Williamsburg Borough

Bradford County

Sayre Borough
Towanda Borough

Bucks County

Bensalem Township
Bristol Township
Chalfont Borough
Doylestown Borough
Dublin Borough
Hulmeville Borough
Ivyland Borough
Langhorne Borough
Langhorne Manor Borough
Lower Southampton Township
Middletown Township
Morrisville Borough
New Britain Borough

Appendix 1: Population Density

(Bucks Co cont.)
Newtown Borough
Perkasie Borough
Quakertown Borough
Sellersville Borough
Silverdale Borough
Telford Borough (Part)
Trumbauersville Borough
Upper Southampton Township
Warminster Township
Yardley Borough

Butler County

Evans City Borough
Harmony Borough
Mars Borough
Seven Fields Borough
Slippery Rock Borough

Cambria County

Brownstown Borough
Cresson Borough
East Conemaugh Borough
Ebensburg Borough
Ferndale Borough
Gallitzin Borough
Geistown Borough
Hastings Borough
Johnstown City
Lorain Borough
Patton Borough
Portage Borough
Sankertown Borough
Southmont Borough
Westmont Borough

Cameron County

Emporium Borough

Carbon County

Beaver Meadows Borough
Lansford Borough
Lehighton Borough
Palmerton Borough
Weissport Borough

Centre County

Bellefonte Borough
Centre Hall Borough
Howard Borough
Milesburg Borough
Philipsburg Borough

Chester County

Avondale Borough
Downingtown Borough

Honey Brook Borough
Malvern Borough
Oxford Borough
Parkesburg Borough
Phoenixville Borough
Spring City Borough
West Grove Borough

Clarion County

Clarion Borough
Knox Borough
New Bethlehem Borough
Rimersburg Borough

Clearfield County

Chester Hill Borough
Clearfield Borough
Dubois City
Houtzdale Borough
Osceola Mills Borough

Clinton County

Avis Borough
Flemington Borough
Lock Haven City
South Renovo Borough

Columbia County

Berwick Borough
Bloomsburg Town
Catawissa Borough

Crawford County

Cambridge Springs Borough
Meadville City

Cumberland County

Camp Hill Borough
Carlisle Borough
Lemoyne Borough
Mechanicsburg Borough
New Cumberland Borough
Newville Borough
Shippensburg Borough (Part)
Shippensburg Township
Wormleysburg Borough

Dauphin County

Elizabethville Borough
Halifax Borough
Highspire Borough
Hummelstown Borough
Middletown Borough
Millersburg Borough
Paxtang Borough

Royalton Borough
Steelton Borough

Delaware County

Aston Township
Brookhaven Borough
Chester Township
Eddystone Borough
Haverford Township
Lower Chichester Township
Marcus Hook Borough
Marple Township
Nether Providence Township
Radnor Township
Springfield Township
Swarthmore Borough
Upland Borough
Upper Chichester Township

Elk County

No Qualifying Municipalities

Erie County

Edinboro Borough
Lawrence Park Township
North East Borough

Fayette County

Belle Vernon Borough
Brownsville Borough
Connellsville City
Dawson Borough
Everson Borough
Fayette City Borough
Masontown Borough
Point Marion Borough
Vanderbilt Borough

Forest County

No Qualifying Municipalities

Franklin County

Chambersburg Borough
Greencastle Borough
Mont Alto Borough
Orrstown Borough
Waynesboro Borough

Fulton County

McConnellsburg Borough

Greene County

Carmichaels Borough
Clarksville Borough
Greensboro Borough

Appendix 1: Population Density

Huntingdon County

Alexandria Borough
Mapleton Borough
Mount Union Borough
Orbisonia Borough
Shade Gap Borough

Indiana County

Armagh Borough
Blairsville Borough
Clymer Borough
Ernest Borough
Homer City Borough
Saltsburg Borough

Jefferson County

No Qualifying Municipalities

Juniata County

Mifflin Borough
Thompsontown Borough

Lackawanna County

Carbondale City
Clarks Green Borough
Clarks Summit Borough
Jermyn Borough
Old Forge Borough
Scranton City

Lancaster County

Akron Borough
Christiana Borough
Columbia Borough
Denver Borough
East Petersburg Borough
Elizabethtown Borough
Ephrata Borough
Lancaster Township
Lititz Borough
Manheim Borough
Marietta Borough
Millersville Borough
Mount Joy Borough
Mountville Borough
New Holland Borough
Strasburg Borough
Terre Hill Borough

Lawrence County

Ellport Borough
Ellwood City Borough (Part)
New Castle City
New Wilmington Borough
South New Castle Borough

Lebanon County

Annville Township
Cleona Borough
Jonestown Borough
Myerstown Borough
Palmyra Borough
West Lebanon Township

Lehigh County

Alburtis Borough
Bethlehem City (Part)
Catasauqua Borough
Coopersburg Borough
Emmaus Borough
Macungie Borough
Slatington Borough
Whitehall Township

Luzerne County

Ashley Borough
Avoca Borough
Edwardsville Borough
Forty Fort Borough
Hazleton City
Luzerne Borough
Nanticoke City
Pittston City
Pringle Borough
Swoyersville Borough
West Hazleton Borough
Wyoming Borough

Lycoming County

Dubois Township
Hughesville Borough
Jersey Shore Borough
Montgomery Borough
Muncy Borough
South Williamsport Borough
Williamsport City

McKean County

Bradford City
Kane Borough

Mercer County

Farrell City
Greenville Borough
Grove City Borough
Sharon City
Sharpsville Borough

Mifflin County

Juniata Terrace Borough
Lewistown Borough
McVeytown Borough

Monroe County

East Stroudsburg Borough
Stroudsburg Borough

Montgomery County

Abington Township
Cheltenham Township
Collegeville Borough
East Norriton Township
Lower Merion Township
Montgomery Township
Pennsburg Borough
Pottstown Borough
Red Hill Borough
Schwenksville Borough
Springfield Township
Upper Moreland Township
West Norriton Township

Montour County

Danville Borough

Northampton County

Bangor Borough
Bath Borough
Bethlehem City (Part)
Freemansburg Borough
Hellertown Borough
Nazareth Borough
North Catasauqua Borough
Northampton Borough
Pen Argyl Borough
Roseto Borough
Tatamy Borough
Walnutport Borough
West Easton Borough
Wind Gap Borough

Northumberland County

Kulpmont Borough
Marion Heights Borough
McEwensville Borough
Milton Borough
Northumberland Borough
Sunbury City
Watsontown Borough

Perry County

Bloomfield Borough
Duncannon Borough
Landisburg Borough
New Buffalo Borough

Philadelphia County

No Qualifying Municipalities

Appendix 1: Population Density

Pike County

Matamoras Borough
Milford Borough

Potter County

No Qualifying Municipalities

Schuylkill County

Girardville Borough
Pine Grove Borough
Port Carbon Borough
Pottsville City
Schuylkill Haven Borough
Shenandoah Borough
St. Clair Borough
Tower City Borough
Tremont Borough

Snyder County

Selinsgrove Borough

Somerset County

Berlin Borough
Central City Borough
Meyersdale Borough
Paint Borough
Rockwood Borough
Somerset Borough
Windber Borough

Sullivan County

No Qualifying Municipalities

Susquehanna County

Forest City Borough
Great Bend Borough
Hallstead Borough
Susquehanna Depot Borough

Tioga County

No Qualifying Municipalities

Union County

New Berlin Borough

Venango County

Oil City

Warren County

Warren City

Washington County

Burgettstown Borough
Canonsburg Borough
Claysville Borough
Donora Borough
East Washington Borough
Finleyville Borough
Houston Borough
Midway Borough
Monongahela City
New Eagle Borough
Roscoe Borough
Washington City

Wayne County

Hawley Borough

Westmoreland County

Bolivar Borough
Delmont Borough
Derry Borough
Export Borough
Greensburg City
Hyde Park Borough
Irwin Borough
Jeannette City
Latrobe City
Ligonier Borough
Monessen City
Mount Pleasant Borough
New Florence Borough
New Kensington City

North Belle Vernon Borough

North Irwin Borough

Penn Borough

Scottdale Borough

Seward Borough

Smithton Borough

South Greensburg Borough

Sutersville Borough

Trafford Borough (Part)

Vandergrift Borough

West Newton Borough

Youngstown Borough

Wyoming County

Tunkhannock Borough

York County

Delta Borough

Dillsburg Borough

Dover Borough

East Prospect Borough

Glen Rock Borough

Goldsboro Borough

Hallam Borough

Hanover Borough

Lewisberry Borough

Manchester Borough

Mount Wolf Borough

New Freedom Borough

Red Lion Borough

Shrewsbury Borough

Spring Grove Borough

Stewartstown Borough

Windsor Borough

Wrightsville Borough

Yoe Borough

York Haven Borough

Appendix 1: Population Density

Low Population Density Areas

Adams County

Abbottstown Borough
Arendtsville Borough
Bendersville Borough
Berwick Township
Biglerville Borough
Bonneauville Borough
Butler Township
Carroll Valley Borough
Conewago Township
Cumberland Township
Fairfield Borough
Franklin Township
Freedom Township
Germany Township
Hamilton Township
Hamiltonban Township
Highland Township
Huntington Township
Latimore Township
Liberty Township
Menallen Township
Mount Joy Township
Mount Pleasant Township
Oxford Township
Reading Township
Straban Township
Tyrone Township
Union Township

Allegheny County

Aleppo Township
Bell Acres Borough
Braddock Hills Borough
Bradford Woods Borough
Churchill Borough
Collier Township
Crescent Township
Dravosburg Borough
East Deer Township
Edgeworth Borough
Elizabeth Township
Fawn Township
Findlay Township
Forward Township
Fox Chapel Borough
Franklin Park Borough
Frazer Township
Glen Osborne Borough
Glenfield Borough
Hampton Township
Harmar Township
Harrison Township
Haysville Borough
Indiana Township
Jefferson Hills Borough

Kennedy Township
Kilbuck Township
Leet Township
Leetsdale Borough
Liberty Borough
Lincoln Borough
Marshall Township
McCandless Township
McDonald Borough (Part)
Monroeville Municipality
Moon Township
Neville Township
North Fayette Township
North Versailles Township
O'Hara Township
Ohio Township
Pine Township
Plum Borough
Reserve Township
Richland Township
Robinson Township
Rosslyn Farms Borough
Sewickley Heights Borough
Sewickley Hills Borough
South Fayette Township
South Park Township
South Versailles Township
Springdale Township
Thornburg Borough
Trafford Borough (Part)
Upper St. Clair Township
Wall Borough
West Deer Township
West Mifflin Borough
White Oak Borough

Armstrong County

Atwood Borough
Bethel Township
Boggs Township
Bradys Bend Township
Burrell Township
Cadogan Township
Cowanshannock Township
Dayton Borough
East Franklin Township
Elderton Borough
Freeport Borough
Gilpin Township
Hovey Township
Kiskiminetas Township
Kittanning Township
Madison Township
Mahoning Township
Manor Township
North Buffalo Township

Parker City
Parks Township
Perry Township
Pine Township
Plumcreek Township
Rayburn Township
Redbank Township
Rural Valley Borough
South Bend Township
South Buffalo Township
Sugarcreek Township
Valley Township
Washington Township
Wayne Township
West Franklin Township
Worthington Borough

Beaver County

Baden Borough
Big Beaver Borough
Bridgewater Borough
Brighton Township
Center Township
Chippewa Township
Conway Borough
Darlington Township
Daugherty Township
East Rochester Borough
Economy Borough
Ellwood City Borough (Part)
Fallston Borough
Frankfort Springs Borough
Franklin Township
Georgetown Borough
Glasgow Borough
Greene Township
Hanover Township
Harmony Township
Homewood Borough
Hookstown Borough
Hopewell Township
Independence Township
Industry Borough
Koppel Borough
Marion Township
Midland Borough
New Galilee Borough
New Sewickley Township
North Sewickley Township
Ohioville Borough
Patterson Township
Potter Township
Raccoon Township
Rochester Township
Shippingport Borough
South Beaver Township

Appendix 1: Population Density

(Beaver Co. cont.)
South Heights Borough
Vanport Township
West Mayfield Borough
White Township

Bedford County

Bedford Township
Bloomfield Township
Broad Top Township
Colerain Township
Cumberland Valley Township
East Providence Township
East St. Clair Township
Everett Borough
Harrison Township
Hopewell Township
Hyndman Borough
Juniata Township
Kimmel Township
King Township
Liberty Township
Lincoln Township
Londonderry Township
Mann Township
Manns Choice Borough
Monroe Township
Napier Township
Pavia Township
Rainsburg Borough
Saxton Borough
Schellsburg Borough
Snake Spring Township
South Woodbury Township
Southampton Township
West Providence Township
West St. Clair Township
Woodbury Township

Berks County

Adamstown Borough (Part)
Albany Township
Alsace Township
Amity Township
Bechtelsville Borough
Bern Township
Bethel Township
Brecknock Township
Caernarvon Township
Centre Township
Colebrookdale Township
Cumru Township
District Township
Douglass Township
Earl Township
Exeter Township
Greenwich Township
Heidelberg Township

Hereford Township
Jefferson Township
Lenhartsville Borough
Longswamp Township
Lower Alsace Township
Lower Heidelberg Township
Lyons Borough
Maidencreek Township
Marion Township
Maxatawny Township
Muhlenberg Township
New Morgan Borough
North Heidelberg Township
Oley Township
Ontelaunee Township
Penn Township
Perry Township
Pike Township
Richmond Township
Robeson Township
Rockland Township
Ruscombmanor Township
South Heidelberg Township
Spring Township
Tilden Township
Tulpehocken Township
Union Township
Upper Bern Township
Upper Tulpehocken Township
Washington Township
Windsor Township

Blair County

Allegheny Township
Antis Township
Blair Township
Catharine Township
Frankstown Township
Freedom Township
Greenfield Township
Huston Township
Juniata Township
Logan Township
North Woodbury Township
Snyder Township
Taylor Township
Tunnelhill Borough (Part)
Tyrone Township
Woodbury Township

Bradford County

Alba Borough
Albany Township
Armenia Township
Asylum Township
Athens Borough
Athens Township
Burlington Borough

Burlington Township
Canton Borough
Canton Township
Columbia Township
Franklin Township
Granville Township
Herrick Township
Le Raysville Borough
Leroy Township
Litchfield Township
Monroe Borough
Monroe Township
New Albany Borough
North Towanda Township
Orwell Township
Overton Township
Pike Township
Ridgebury Township
Rome Borough
Rome Township
Sheshequin Township
Smithfield Township
South Creek Township
South Waverly Borough
Springfield Township
Standing Stone Township
Stevens Township
Sylvania Borough
Terry Township
Towanda Township
Troy Borough
Troy Township
Tuscarora Township
Ulster Township
Warren Township
Wells Township
West Burlington Township
Wilmot Township
Windham Township
Wyalusing Borough
Wyalusing Township
Wysox Township

Bucks County

Bedminster Township
Bridgeton Township
Buckingham Township
Doylestown Township
Durham Township
East Rockhill Township
Falls Township
Haycock Township
Hilltown Township
Lower Makefield Township
Milford Township
New Britain Township
New Hope Borough
Newtown Township

Appendix 1: Population Density

(Bucks Co. cont.)
Nockamixon Township
Northampton Township
Plumstead Township
Richland Township
Riegelsville Borough
Solebury Township
Springfield Township
Tinicum Township
Tullytown Borough
Upper Makefield Township
Warrington Township
Warwick Township
West Rockhill Township
Wrightstown Township

Butler County

Adams Township
Allegheny Township
Brady Township
Bruin Borough
Buffalo Township
Butler Township
Callery Borough
Center Township
Cherry Township
Cherry Valley Borough
Chicora Borough
Clay Township
Clearfield Township
Clinton Township
Concord Township
Connoquenessing Borough
Connoquenessing Township
Cranberry Township
Donegal Township
East Butler Borough
Eau Claire Borough
Fairview Borough
Fairview Township
Forward Township
Franklin Township
Harrisville Borough
Jackson Township
Jefferson Township
Karns City Borough
Lancaster Township
Marion Township
Mercer Township
Middlesex Township
Muddy Creek Township
Oakland Township
Parker Township
Penn Township
Petrolia Borough
Portersville Borough
Prospect Borough
Saxonburg Borough

Slippery Rock Township
Summit Township
Valencia Borough
Venango Township
Washington Township
West Liberty Borough
West Sunbury Borough
Winfield Township
Worth Township
Zelienople Borough

Cambria County

Adams Township
Allegheny Township
Ashville Borough
Barr Township
Blacklick Township
Cambria Township
Carrolltown Borough
Cassandra Borough
Chest Springs Borough
Chest Township
Clearfield Township
Conemaugh Township
Cresson Township
Croyle Township
Daisytown Borough
Dean Township
East Carroll Township
East Taylor Township
Ehrenfeld Borough
Elder Township
Franklin Borough
Gallitzin Township
Jackson Township
Lilly Borough
Loretto Borough
Lower Yoder Township
Middle Taylor Township
Munster Township
Nanty-Glo Borough
Northern Cambria Borough
Portage Township
Reade Township
Richland Township
Scalp Level Borough
South Fork Borough
Stonycreek Township
Summerhill Borough
Summerhill Township
Susquehanna Township
Tunnelhill Borough (Part)
Upper Yoder Township
Vintondale Borough
Washington Township
West Carroll Township
West Taylor Township
White Township

Wilmore Borough

Cameron County

Driftwood Borough
Gibson Township
Grove Township
Lumber Township
Portage Township
Shippen Township

Carbon County

Banks Township
Bowmanstown Borough
East Penn Township
East Side Borough
Franklin Township
Jim Thorpe Borough
Kidder Township
Lausanne Township
Lehigh Township
Lower Towamensing Township
Mahoning Township
Nesquehoning Borough
Packer Township
Parryville Borough
Penn Forest Township
Summit Hill Borough
Towamensing Township
Weatherly Borough

Centre County

Benner Township
Boggs Township
Burnside Township
College Township
Curtin Township
Ferguson Township
Gregg Township
Haines Township
Halfmoon Township
Harris Township
Howard Township
Huston Township
Liberty Township
Marion Township
Miles Township
Millheim Borough
Patton Township
Penn Township
Port Matilda Borough
Potter Township
Rush Township
Snow Shoe Borough
Snow Shoe Township
Spring Township
Taylor Township
Union Township
Unionville Borough

Appendix 1: Population Density

(Centre Co. cont.)
Walker Township
Worth Township

Chester County

Atglen Borough
Birmingham Township
Caln Township
Charlestown Township
East Bradford Township
East Brandywine Township
East Caln Township
East Coventry Township
East Fallowfield Township
East Goshen Township
East Marlborough Township
East Nantmeal Township
East Nottingham Township
East Pikeland Township
East Vincent Township
East Whiteland Township
Easttown Township
Elk Township
Elverson Borough
Franklin Township
Highland Township
Honey Brook Township
Kennett Township
London Britain Township
London Grove Township
Londonderry Township
Lower Oxford Township
Modena Borough
New Garden Township
New London Township
Newlin Township
North Coventry Township
Penn Township
Pennsbury Township
Pocopson Township
Sadsbury Township
Schuylkill Township
South Coatesville Borough
South Coventry Township
Thornbury Township
Tredyffrin Township
Upper Oxford Township
Upper Uwchlan Township
Uwchlan Township
Valley Township
Wallace Township
Warwick Township
West Bradford Township
West Brandywine Township
West Caln Township
West Fallowfield Township
West Goshen Township
West Marlborough Township

West Nantmeal Township
West Nottingham Township
West Pikeland Township
West Sadsbury Township
West Vincent Township
West Whiteland Township
Westtown Township
Willistown Township

Clarion County

Ashland Township
Beaver Township
Brady Township
Callensburg Borough
Clarion Township
East Brady Borough
Elk Township
Emlenton Borough (Part)
Farmington Township
Foxburg Borough
Hawthorn Borough
Highland Township
Knox Township
Licking Township
Limestone Township
Madison Township
Millcreek Township
Monroe Township
Paint Township
Perry Township
Piney Township
Porter Township
Redbank Township
Richland Township
Salem Township
Shippenville Borough
Sligo Borough
St. Petersburg Borough
Strattanville Borough
Toby Township
Washington Township

Clearfield County

Beccaria Township
Bell Township
Bigler Township
Bloom Township
Boggs Township
Bradford Township
Brady Township
Brisbin Borough
Burnside Borough
Burnside Township
Chest Township
Coalport Borough
Cooper Township
Covington Township
Curwensville Borough

Decatur Township
Falls Creek Borough (Part)
Ferguson Township
Girard Township
Glen Hope Borough
Goshen Township
Graham Township
Grampian Borough
Greenwood Township
Gulich Township
Huston Township
Irvona Borough
Jordan Township
Karthaus Township
Knox Township
Lawrence Township
Mahaffey Borough
Morris Township
New Washington Borough
Newburg Borough
Penn Township
Pike Township
Pine Township
Ramey Borough
Sandy Township
Troutville Borough
Union Township
Wallacetown Borough
Westover Borough
Woodward Township

Clinton County

Allison Township
Bald Eagle Township
Beech Creek Borough
Beech Creek Township
Castanea Township
Chapman Township
Colebrook Township
Crawford Township
Dunnstable Township
East Keating Township
Gallagher Township
Greene Township
Grugan Township
Lamar Township
Leidy Township
Logan Township
Loganton Borough
Mill Hall Borough
Noyes Township
Pine Creek Township
Porter Township
Renovo Borough
Wayne Township
West Keating Township
Woodward Township

Appendix 1: Population Density

Columbia County

Ashland Borough (Part)
Beaver Township
Benton Borough
Benton Township
Briar Creek Borough
Briar Creek Township
Catawissa Township
Centralia Borough
Cleveland Township
Conyngham Township
Fishing Creek Township
Franklin Township
Greenwood Township
Hemlock Township
Jackson Township
Locust Township
Madison Township
Main Township
Mifflin Township
Millville Borough
Montour Township
Mount Pleasant Township
North Centre Township
Orange Township
Orangeville Borough
Pine Township
Roaring Creek Township
Scott Township
South Centre Township
Stillwater Borough
Sugarloaf Township

Crawford County

Athens Township
Beaver Township
Bloomfield Township
Blooming Valley Borough
Cambridge Township
Centerville Borough
Cochranton Borough
Conneaut Lake Borough
Conneaut Township
Conneautville Borough
Cussewago Township
East Fairfield Township
East Fallowfield Township
East Mead Township
Fairfield Township
Greenwood Township
Hayfield Township
Hydetown Borough
Linesville Borough
North Shenango Township
Oil Creek Township
Pine Township
Randolph Township
Richmond Township

Rockdale Township
Rome Township
Sadsbury Township
Saegertown Borough
South Shenango Township
Sparta Township
Spartansburg Borough
Spring Township
Springboro Borough
Steuben Township
Summerhill Township
Summit Township
Titusville City
Townville Borough
Troy Township
Union Township
Venango Borough
Venango Township
Vernon Township
Wayne Township
West Fallowfield Township
West Mead Township
West Shenango Township
Woodcock Borough
Woodcock Township

Cumberland County

Cooke Township
Dickinson Township
East Pennsboro Township
Hampden Township
Hopewell Township
Lower Allen Township
Lower Frankford Township
Lower Mifflin Township
Middlesex Township
Monroe Township
Mount Holly Springs Borough
Newburg Borough
North Middleton Township
North Newton Township
Penn Township
Silver Spring Township
South Middleton Township
South Newton Township
Southampton Township
Upper Allen Township
Upper Frankford Township
Upper Mifflin Township
West Pennsboro Township

Dauphin County

Berrysburg Borough
Conewago Township
Dauphin Borough
Derry Township
East Hanover Township
Gratz Borough

Halifax Township
Jackson Township
Jefferson Township
Londonderry Township
Lower Paxton Township
Lower Swatara Township
Lykens Borough
Lykens Township
Middle Paxton Township
Mifflin Township
Pillow Borough
Reed Township
Rush Township
South Hanover Township
Susquehanna Township
Swatara Township
Upper Paxton Township
Washington Township
Wayne Township
West Hanover Township
Wiconisco Township
Williams Township

Delaware County

Bethel Township
Chadds Ford Township
Chester Heights Borough
Concord Township
Edgmont Township
Middletown Township
Newtown Township
Rose Valley Borough
Thornbury Township
Tinicum Township
Trainer Borough
Upper Providence Township

Elk County

Benezette Township
Fox Township
Highland Township
Horton Township
Jay Township
Johnsonburg Borough
Jones Township
Millstone Township
Ridgway Borough
Ridgway Township
Spring Creek Township
St. Marys City

Erie County

Albion Borough
Amity Township
Concord Township
Conneaut Township
Corry City
Cranesville Borough

Appendix 1: Population Density

(Erie Co. cont.)
Elgin Borough
Elk Creek Township
Fairview Township
Franklin Township
Girard Borough
Girard Township
Greene Township
Greenfield Township
Harborcreek Township
Lake City Borough
LeBoeuf Township
McKean Borough
McKean Township
Mill Village Borough
Millcreek Township
North East Township
Platea Borough
Springfield Township
Summit Township
Union City Borough
Union Township
Venango Township
Washington Township
Waterford Borough
Waterford Township
Wattsburg Borough
Wayne Township

Fayette County

Brownsville Township
Bullskin Township
Connellsville Township
Dunbar Borough
Dunbar Township
Fairchance Borough
Franklin Township
Georges Township
German Township
Henry Clay Township
Jefferson Township
Lower Tyrone Township
Luzerne Township
Markleysburg Borough
Menallen Township
Newell Borough
Nicholson Township
North Union Township
Ohiopyle Borough
Perry Township
Perryopolis Borough
Redstone Township
Saltlick Township
Seven Springs Borough (Part)
Smithfield Borough
South Connellsville Borough
South Union Township
Springfield Township

Springhill Township
Stewart Township
Upper Tyrone Township
Washington Township
Wharton Township

Forest County

Barnett Township
Green Township
Harmony Township
Hickory Township
Howe Township
Jenks Township
Kingsley Township
Tionesta Borough
Tionesta Township

Franklin County

Antrim Township
Fannett Township
Greene Township
Guilford Township
Hamilton Township
Letterkenny Township
Lurgan Township
Mercersburg Borough
Metal Township
Montgomery Township
Peters Township
Quincy Township
Shippensburg Borough (Part)
Southampton Township
St. Thomas Township
Warren Township
Washington Township

Fulton County

Ayr Township
Belfast Township
Bethel Township
Brush Creek Township
Dublin Township
Licking Creek Township
Taylor Township
Thompson Township
Todd Township
Union Township
Valley-Hi Borough
Wells Township

Greene County

Aleppo Township
Center Township
Cumberland Township
Dunkard Township
Franklin Township
Freeport Township
Gilmore Township

Gray Township
Greene Township
Jackson Township
Jefferson Borough
Jefferson Township
Monongahela Township
Morgan Township
Morris Township
Perry Township
Rices Landing Borough
Richhill Township
Springhill Township
Washington Township
Wayne Township
Whiteley Township

Huntingdon County

Barree Township
Birmingham Borough
Brady Township
Broad Top City Borough
Carbon Township
Cass Township
Cassville Borough
Clay Township
Coalmont Borough
Cromwell Township
Dublin Township
Dudley Borough
Franklin Township
Henderson Township
Hopewell Township
Huntingdon Borough
Jackson Township
Juniata Township
Lincoln Township
Logan Township
Marklesburg Borough
Mill Creek Borough
Miller Township
Morris Township
Oneida Township
Penn Township
Petersburg Borough
Porter Township
Rockhill Borough
Salttillo Borough
Shirley Township
Shirleysburg Borough
Smithfield Township
Springfield Township
Spruce Creek Township
Tell Township
Three Springs Borough
Todd Township
Union Township
Walker Township
Warriors Mark Township

Appendix 1: Population Density

(Huntingdon Co. cont.)
West Township
Wood Township

Indiana County

Armstrong Township
Banks Township
Black Lick Township
Brush Valley Township
Buffington Township
Burrell Township
Canoe Township
Center Township
Cherry Tree Borough
Cherryhill Township
Conemaugh Township
Creeside Borough
East Mahoning Township
East Wheatfield Township
Glen Campbell Borough
Grant Township
Green Township
Marion Center Borough
Montgomery Township
North Mahoning Township
Pine Township
Plumville Borough
Rayne Township
Shelocta Borough
Smicksburg Borough
South Mahoning Township
Washington Township
West Mahoning Township
West Wheatfield Township
White Township
Young Township

Jefferson County

Barnett Township
Beaver Township
Bell Township
Big Run Borough
Brockway Borough
Brookville Borough
Clover Township
Corsica Borough
Eldred Township
Falls Creek Borough (Part)
Gaskill Township
Heath Township
Henderson Township
Knox Township
McCalmont Township
Oliver Township
Perry Township
Pine Creek Township
Polk Township
Porter Township

Punxsutawney Borough
Reynoldsville Borough
Ringgold Township
Rose Township
Snyder Township
Summerville Borough
Sykesville Borough
Timblin Borough
Union Township
Warsaw Township
Washington Township
Winslow Township
Worthville Borough
Young Township

Juniata County

Beale Township
Delaware Township
Fayette Township
Fermanagh Township
Greenwood Township
Lack Township
Milford Township
Monroe Township
Port Royal Borough
Spruce Hill Township
Susquehanna Township
Turbett Township
Tuscarora Township
Walker Township

Lackawanna County

Abington Township
Archbald Borough
Benton Township
Blakely Borough
Carbondale Township
Clifton Township
Covington Township
Dalton Borough
Dickson City Borough
Dunmore Borough
Elmhurst Township
Fell Township
Glenburn Township
Greenfield Township
Jefferson Township
Jessup Borough
La Plume Township
Madison Township
Mayfield Borough
Moosic Borough
Moscow Borough
Newton Township
North Abington Township
Olyphant Borough
Ransom Township
Roaring Brook Township

Scott Township
South Abington Township
Spring Brook Township
Taylor Borough
Thornhurst Township
Throop Borough
Vandling Borough
West Abington Township

Lancaster County

Adamstown Borough (Part)
Bart Township
Brecknock Township
Caernarvon Township
Clay Township
Colerain Township
Conestoga Township
Conoy Township
Drumore Township
Earl Township
East Cocalico Township
East Donegal Township
East Drumore Township
East Earl Township
East Hempfield Township
East Lampeter Township
Eden Township
Elizabeth Township
Ephrata Township
Fulton Township
Leacock Township
Little Britain Township
Manheim Township
Manor Township
Martic Township
Mount Joy Township
Paradise Township
Penn Township
Pequea Township
Providence Township
Quarryville Borough
Rapho Township
Sadsbury Township
Salisbury Township
Strasburg Township
Upper Leacock Township
Warwick Township
West Cocalico Township
West Donegal Township
West Earl Township
West Hempfield Township
West Lampeter Township

Lawrence County

Bessemer Borough
Enon Valley Borough
Hickory Township
Little Beaver Township

Appendix 1: Population Density

(Lawrence Co. cont.)
Mahoning Township
Neshannock Township
New Beaver Borough
North Beaver Township
Perry Township
Plain Grove Township
Pulaski Township
S.N.P.J. Borough
Scott Township
Shenango Township
Slippery Rock Township
Taylor Township
Union Township
Volant Borough
Wampum Borough
Washington Township
Wayne Township
Wilmington Township

Lebanon County

Bethel Township
Cold Spring Township
Cornwall Borough
East Hanover Township
Heidelberg Township
Jackson Township
Millcreek Township
Mount Gretna Borough
North Annville Township
North Cornwall Township
North Lebanon Township
North Londonderry Township
Richland Borough
South Annville Township
South Lebanon Township
South Londonderry Township
Swatara Township
Union Township
West Cornwall Township

Lehigh County

Hanover Township
Heidelberg Township
Lower Macungie Township
Lower Milford Township
Lowhill Township
Lynn Township
North Whitehall Township
Salisbury Township
South Whitehall Township
Upper Macungie Township
Upper Milford Township
Upper Saucon Township
Washington Township
Weisenberg Township

Luzerne County

Bear Creek Township
Bear Creek Village Borough
Black Creek Township
Buck Township
Butler Township
Conyngham Borough
Conyngham Township
Courtdale Borough
Dallas Borough
Dallas Township
Dennison Township
Dorrance Township
Dupont Borough
Duryea Borough
Exeter Borough
Exeter Township
Fairmount Township
Fairview Township
Foster Township
Franklin Township
Hanover Township
Harveys Lake Borough
Hazle Township
Hollenback Township
Hughestown Borough
Hunlock Township
Huntington Township
Jackson Township
Jeddo Borough
Jenkins Township
Kingston Township
Laflin Borough
Lake Township
Larksville Borough
Laurel Run Borough
Lehman Township
Nescopeck Borough
Nescopeck Township
New Columbus Borough
Newport Township
Nuangola Borough
Penn Lake Park Borough
Pittston Township
Plains Township
Plymouth Township
Rice Township
Ross Township
Salem Township
Shickshinny Borough
Slocum Township
Sugar Notch Borough
Sugarloaf Township
Union Township
Warrior Run Borough
West Wyoming Borough
White Haven Borough
Wilkes-Barre Township

Wright Township
Yatesville Borough

Lycoming County

Anthony Township
Armstrong Township
Bastress Township
Brady Township
Brown Township
Cascade Township
Clinton Township
Cogan House Township
Cummings Township
Eldred Township
Fairfield Township
Franklin Township
Gamble Township
Hepburn Township
Jackson Township
Jordan Township
Lewis Township
Limestone Township
Loyalsock Township
Lycoming Township
McHenry Township
McIntyre Township
McNett Township
Mifflin Township
Mill Creek Township
Montoursville Borough
Moreland Township
Muncy Creek Township
Muncy Township
Nippenose Township
Old Lycoming Township
Penn Township
Piatt Township
Picture Rocks Borough
Pine Township
Plunketts Creek Township
Porter Township
Salladasburg Borough
Shrewsbury Township
Susquehanna Township
Upper Fairfield Township
Washington Township
Watson Township
Wolf Township
Woodward Township

McKean County

Annin Township
Bradford Township
Ceres Township
Corydon Township
Eldred Borough
Eldred Township
Foster Township

Appendix 1: Population Density

(McKean Co. cont.)
Hamilton Township
Hamlin Township
Keating Township
Lafayette Township
Lewis Run Borough
Liberty Township
Mount Jewett Borough
Norwich Township
Otto Township
Port Allegany Borough
Sergeant Township
Smethport Borough
Wetmore Township

Mercer County

Clark Borough
Coolspring Township
Deer Creek Township
Delaware Township
East Lackawannock Township
Fairview Township
Findley Township
Fredonia Borough
French Creek Township
Greene Township
Hempfield Township
Hermitage City
Jackson Center Borough
Jackson Township
Jamestown Borough
Jefferson Township
Lackawannock Township
Lake Township
Liberty Township
Mercer Borough
Mill Creek Township
New Lebanon Borough
New Vernon Township
Otter Creek Township
Perry Township
Pine Township
Pymatuning Township
Salem Township
Sandy Creek Township
Sandy Lake Borough
Sandy Lake Township
Sheakleyville Borough
Shenango Township
South Pymatuning Township
Springfield Township
Stoneboro Borough
Sugar Grove Township
West Middlesex Borough
West Salem Township
Wheatland Borough
Wilmington Township

Wolf Creek Township
Worth Township

Mifflin County

Armagh Township
Bratton Township
Brown Township
Burnham Borough
Decatur Township
Derry Township
Granville Township
Kistler Borough
Menno Township
Newton Hamilton Borough
Oliver Township
Union Township
Wayne Township

Monroe County

Barrett Township
Chestnuthill Township
Coolbaugh Township
Delaware Water Gap Borough
Eldred Township
Hamilton Township
Jackson Township
Middle Smithfield Township
Mount Pocono Borough
Paradise Township
Pocono Township
Polk Township
Price Township
Ross Township
Smithfield Township
Stroud Township
Tobyhanna Township
Tunkhannock Township

Montgomery County

Bryn Athyn Borough
Douglass Township
Franconia Township
Green Lane Borough
Hatfield Township
Horsham Township
Limerick Township
Lower Frederick Township
Lower Gwynedd Township
Lower Moreland Township
Lower Pottsgrove Township
Lower Providence Township
Lower Salford Township
Marlborough Township
New Hanover Township
Perkiomen Township
Plymouth Township
Salford Township
Skipack Township

Towamencin Township
Trappe Borough
Upper Dublin Township
Upper Frederick Township
Upper Gwynedd Township
Upper Hanover Township
Upper Merion Township
Upper Pottsgrove Township
Upper Providence Township
Upper Salford Township
West Conshohocken Borough
West Pottsgrove Township
Whitemarsh Township
Whitpain Township
Worcester Township

Montour County

Anthony Township
Cooper Township
Derry Township
Liberty Township
Limestone Township
Mahoning Township
Mayberry Township
Valley Township
West Hemlock Township

Northampton County

Allen Township
Bethlehem Township
Bushkill Township
Chapman Borough
East Allen Township
East Bangor Borough
Forks Township
Glendon Borough
Hanover Township
Lehigh Township
Lower Mount Bethel Township
Lower Nazareth Township
Lower Saucon Township
Moore Township
Palmer Township
Plainfield Township
Portland Borough
Stockertown Borough
Upper Mount Bethel Township
Upper Nazareth Township
Washington Township
Williams Township

Northumberland County

Coal Township
Delaware Township
East Cameron Township
East Chillisquaque Township
(Northumberland Co. cont.)
Herndon Borough

Appendix 1: Population Density

(Northumberland Co. cont.)

Jackson Township
Jordan Township
Lewis Township
Little Mahanoy Township
Lower Augusta Township
Lower Mahanoy Township
Mount Carmel Township
Point Township
Ralpho Township
Riverside Borough
Rockefeller Township
Rush Township
Shamokin Township
Snydertown Borough
Turbot Township
Turbotville Borough
Upper Augusta Township
Upper Mahanoy Township
Washington Township
West Cameron Township
West Chillisquaque Township
Zerbe Township

Perry County

Blain Borough
Buffalo Township
Carroll Township
Centre Township
Greenwood Township
Howe Township
Jackson Township
Juniata Township
Liverpool Borough
Liverpool Township
Marysville Borough
Miller Township
Millerstown Borough
Northeast Madison Township
Oliver Township
Penn Township
Rye Township
Saville Township
Southwest Madison Township
Spring Township
Toboyne Township
Tuscarora Township
Tyrone Township
Watts Township
Wheatfield Township

Philadelphia County

No Qualifying Municipalities

Pike County

Blooming Grove Township
Delaware Township
Dingman Township

Greene Township
Lackawaxen Township
Lehman Township
Milford Township
Palmyra Township
Porter Township
Shohola Township
Westfall Township

Potter County

Abbott Township
Allegany Township
Austin Borough
Bingham Township
Clara Township
Coudersport Borough
Eulalia Township
Galeton Borough
Genesee Township
Harrison Township
Hebron Township
Hector Township
Homer Township
Keating Township
Oswayo Borough
Oswayo Township
Pike Township
Pleasant Valley Township
Portage Township
Roulette Township
Sharon Township
Shinglehouse Borough
Stewardson Township
Summit Township
Sweden Township
Sylvania Township
Ulysses Borough
Ulysses Township
West Branch Township
Wharton Township

Schuylkill County

Ashland Borough (Part)
Auburn Borough
Barry Township
Blythe Township
Branch Township
Butler Township
Cass Township
Coaldale Borough
Cressona Borough
Deer Lake Borough
Delano Township
East Brunswick Township
East Norwegian Township
East Union Township
Eldred Township
Foster Township

Frailey Township
Gilberton Borough
Gordon Borough
Hegins Township
Hubley Township
Kline Township
Landingville Borough
Mahanoy Township
Mechanicsville Borough
Middleport Borough
Mount Carbon Borough
New Castle Township
New Philadelphia Borough
New Ringgold Borough
North Manheim Township
North Union Township
Norwegian Township
Orwigsburg Borough
Palo Alto Borough
Pine Grove Township
Port Clinton Borough
Porter Township
Reilly Township
Ringtown Borough
Rush Township
Ryan Township
Schuylkill Township
South Manheim Township
Tamaqua Borough
Tremont Township
Union Township
Upper Mahantongo Township
Walker Township
Washington Township
Wayne Township
West Brunswick Township
West Mahanoy Township
West Penn Township

Snyder County

Adams Township
Beaver Township
Beavertown Borough
Center Township
Chapman Township
Franklin Township
Freeburg Borough
Jackson Township
McClure Borough
Middleburg Borough
Middlecreek Township
Monroe Township
Penn Township
Perry Township
Shamokin Dam Borough
Spring Township
Union Township

Appendix 1: Population Density

(Snyder Co. cont.)
Washington Township
West Beaver Township
West Perry Township

Somerset County

Addison Borough
Addison Township
Allegheny Township
Benson Borough
Black Township
Boswell Borough
Brothersvalley Township
Callimont Borough
Casselman Borough
Conemaugh Township
Confluence Borough
Elk Lick Township
Fairhope Township
Garrett Borough
Greenville Township
Hooversville Borough
Indian Lake Borough
Jefferson Township
Jenner Township
Jennerstown Borough
Larimer Township
Lincoln Township
Lower Turkeyfoot Township
Middlecreek Township
Milford Township
New Baltimore Borough
New Centerville Borough
Northampton Township
Ogle Township
Paint Township
Quemahoning Township
Salisbury Borough
Seven Springs Borough (Part)
Shade Township
Shanksville Borough
Somerset Township
Southampton Township
Stonycreek Township
Stoystown Borough
Summit Township
Upper Turkeyfoot Township
Ursina Borough
Wellersburg Borough

Sullivan County

Cherry Township
Colley Township
Davidson Township
Dushore Borough
Eagles Mere Borough
Elkland Township
Forks Township

Forksville Borough
Fox Township
Hillsgrove Township
Laporte Borough
Laporte Township
Shrewsbury Township

Susquehanna County

Apolacon Township
Ararat Township
Auburn Township
Bridgewater Township
Brooklyn Township
Choconut Township
Clifford Township
Dimock Township
Forest Lake Township
Franklin Township
Friendsville Borough
Gibson Township
Great Bend Township
Harford Township
Harmony Township
Herrick Township
Hop Bottom Borough
Jackson Township
Jessup Township
Lanesboro Borough
Lathrop Township
Lenox Township
Liberty Township
Little Meadows Borough
Middletown Township
Montrose Borough
New Milford Borough
New Milford Township
Oakland Borough
Oakland Township
Rush Township
Silver Lake Township
Springville Township
Thompson Borough
Thompson Township
Union Dale Borough

Tioga County

Bloss Township
Blossburg Borough
Brookfield Township
Charleston Township
Chatham Township
Clymer Township
Covington Township
Deerfield Township
Delmar Township
Duncan Township
Elk Township
Elkland Borough

Farmington Township
Gaines Township
Hamilton Township
Jackson Township
Knoxville Borough
Lawrence Township
Lawrenceville Borough
Liberty Borough
Liberty Township
Mansfield Borough
Middlebury Township
Morris Township
Nelson Township
Osceola Township
Putnam Township
Richmond Township
Roseville Borough
Rutland Township
Shippen Township
Sullivan Township
Tioga Borough
Tioga Township
Union Township
Ward Township
Wellsboro Borough
Westfield Borough
Westfield Township

Union County

Buffalo Township
East Buffalo Township
Gregg Township
Hartleton Borough
Hartley Township
Kelly Township
Lewis Township
Limestone Township
Mifflinburg Borough
Union Township
West Buffalo Township
White Deer Township

Venango County

Allegheny Township
Barkeyville Borough
Canal Township
Cherrytree Township
Clinton Township
Clintonville Borough
Cooperstown Borough
Cornplanter Township
Cranberry Township
Emlenton Borough (Part)
Franklin City
Frenchcreek Township
Irwin Township
Jackson Township
Mineral Township

Appendix 1: Population Density

(Venango Co. cont.)
Oakland Township
Oil Creek Township
(Venango Co. cont.)
Pinegrove Township
Pleasantville Borough
Plum Township
Polk Borough
President Township
Richland Township
Rockland Township
Rouseville Borough
Sandy Creek Township
Scrubgrass Township
Sugar Creek Borough
Utica Borough
Victory Township

Warren County

Bear Lake Borough
Brokenstraw Township
Cherry Grove Township
Clarendon Borough
Columbus Township
Conewango Township
Deerfield Township
Eldred Township
Elk Township
Farmington Township
Freehold Township
Glade Township
Limestone Township
Mead Township
Pine Grove Township
Pittsfield Township
Pleasant Township
Sheffield Township
Southwest Township
Spring Creek Township
Sugar Grove Borough
Sugar Grove Township
Tidioute Borough
Triumph Township
Watson Township
Youngsville Borough

Washington County

Allenport Borough
Amwell Township
Beallsville Borough
Bentleyville Borough
Blaine Township
Buffalo Township
California Borough
Canton Township
Carroll Township
Cecil Township
Centerville Borough

Chartiers Township
Coal Center Borough
Cokeburg Borough
Cross Creek Township
Deemston Borough
Donegal Township
Dunlevy Borough
East Bethlehem Township
East Finley Township
Elco Borough
Ellsworth Borough
Fallowfield Township
Green Hills Borough
Hanover Township
Hopewell Township
Independence Township
Jefferson Township
Long Branch Borough
Marianna Borough
Morris Township
Mount Pleasant Township
North Bethlehem Township
North Franklin Township
North Strabane Township
Nottingham Township
Peters Township
Robinson Township
Smith Township
Somerset Township
South Franklin Township
South Strabane Township
Speers Borough
Stockdale Borough
Twilight Borough
Union Township
West Bethlehem Township
West Brownsville Borough
West Finley Township
West Middletown Borough
West Pike Run Township

Wayne County

Berlin Township
Bethany Borough
Buckingham Township
Canaan Township
Cherry Ridge Township
Clinton Township
Damascus Township
Dreher Township
Dyberry Township
Honesdale Borough
Lake Township
Lebanon Township
Lehigh Township
Manchester Township
Mount Pleasant Township
Oregon Township
Palmyra Township

Paupack Township
Preston Township
Prompton Borough
Salem Township
Scott Township
South Canaan Township
Starrucca Borough
Sterling Township
Texas Township
Waymart Borough

Westmoreland County

Arona Borough
Avonmore Borough
Bell Township
Cook Township
Derry Township
Donegal Borough
Donegal Township
East Huntingdon Township
Fairfield Township
Hempfield Township
Hunker Borough
Laurel Mountain Borough
Ligonier Township
Lower Burrell City
Loyalhanna Township
Madison Borough
Manor Borough
Mount Pleasant Township
Murrysville Municipality
New Alexandria Borough
New Stanton Borough
North Huntingdon Township
Oklahoma Borough
Penn Township
Rostraver Township
Salem Township
Sewickley Township
South Huntingdon Township
St. Clair Township
Unity Township
Upper Burrell Township
Washington Township
West Leechburg Borough
Youngwood Borough

Wyoming County

Braintrim Township
Clinton Township
Eaton Township
Exeter Township
Factoryville Borough
Falls Township
Forkston Township
Laceyville Borough
Lemon Township
Mehoopany Township

Appendix 1: Population Density

(Wyoming Co. cont.)
Meshoppen Borough
Meshoppen Township
Monroe Township
(Wyoming Co. cont.)
Nicholson Borough
Nicholson Township
North Branch Township
Northmoreland Township
Noxen Township
Overfield Township
Tunkhannock Township
Washington Township
Windham Township

York County

Carroll Township
Chanceford Township
Codus Township
Conewago Township
Cross Roads Borough
Dover Township

East Hopewell Township
East Manchester Township
Fairview Township
Fawn Grove Borough
Fawn Township
Felton Borough
Franklin Township
Franklintown Borough
Heidelberg Township
Hellam Township
Hopewell Township
Jackson Township
Jacobus Borough
Jefferson Borough
Loganville Borough
Lower Chanceford Township
Lower Windsor Township
Manchester Township
Manheim Township
Monaghan Township
New Salem Borough
Newberry Township

North Codorus Township
North Hopewell Township
Paradise Township
Peach Bottom Township
Penn Township
Railroad Borough
Seven Valleys Borough
Shrewsbury Township
Spring Garden Township
Springettsbury Township
Springfield Township
Warrington Township
Washington Township
Wellsville Borough
West Manchester Township
West Manheim Township
Windsor Township
Winterstown Borough
York Township
Yorkana Borough