

2021 SmartWay Rail Carrier Partner Tool: Quick Start Guide

U.S. Version 2.0.20 (Data Year 2020)



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**U.S. Version 2.0.20
(Data Year 2020)**

Transportation and Climate Division
Office of Transportation and Air Quality
U.S. Environmental Protection Agency

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Pre-Checklist – Before Getting Started

WHAT DATA DO I NEED TO GATHER TO COMPLETE THE RAIL CARRIER TOOL?

To participate in SmartWay, rail carriers need to gather the following essential information to complete the Rail Carrier Tool:


-  The official company name EXACTLY as you would like it presented on the EPA website and other EPA communications
-  Company contact information
-  Contact details for your Working Contact (see page 5 for definition)
-  Contact details for an Executive, Sustainability and/or Other Contact(s) (Executive cannot be the same as the Working Contact) (see page 5 for definition)
-  Fleet details for all fleets you control:
 - Fleet name and fleet class (1, 2, or 3)
 - Geographic areas of operation
 - Power unit information:
 - Activity (number of units or hours per year)
 - By type
 - By engine tier level
 - Locomotive unit miles per year
 - Unit, way, and through trains
 - Train and yard switching
 - Operations information
 - Gallons per year by fuel type (diesel, biodiesel, LNG, CNG, electric) and by category (freight, passenger, switching)
 - Ton-miles per year
 - Gross, revenue, and non-revenue totals
 - Total railcar miles per year
 - Data sources
 - SmartWay ID number (if this is not your first tool submission)

This data should be provided for all of your company's fleets. This data reflects the amount of freight carried by each carrier, the distance that freight is carried, and the fuel consumed to carry the freight.





WHAT SOFTWARE & HARDWARE IS REQUIRED FOR COMPLETING THE RAIL CARRIER TOOL?

The Rail Carrier Tool was designed in Microsoft Excel using forms and Visual Basic for Applications (VBA) macros and code. Completing the Rail Carrier Tool requires the following software and system requirements:

Supported Operating Systems

-  Microsoft Windows 7 or later
 - Includes Windows 7, Windows 8 and 8.1, and Windows 10
 - The Tool may also be compatible with Windows XP if all other requirements are met as well. However, Windows XP has reached end of support and Microsoft and this may affect tool performance.

System Requirements

-  IBM Pentium processor or greater
-  2 GB Ram
-  100 MB disk space
-  Monitor display setting of 1,024 x 768 or greater

Software Requirements

-  Microsoft Excel 2013 or later
 - Includes Excel 2013, Excel 2016 and Excel in Office 365
 - Must be the one-time purchase version of Microsoft Excel installed on a PC or the Office 365 subscription **desktop version** of the application; **cannot run with Microsoft Excel online or through OneDrive online**
 - The Tool may also be compatible with Excel 2007 and Excel 2010 if all other requirements are met as well. However, Excel 2007 and Excel 2010 have reached end of support and Microsoft no longer provides technical support, bug fixes, or security fixes. This may affect tool performance.
 - Please download the tool and save it to your desktop, or a location on your hard drive if your desktop is in the cloud. The tool will not run if saved to the cloud or certain other locations.

Please check with the user guides for your computer, online support, or your company's IT department to make sure your system is set up to use the Rail Carrier Tool.

Step 1 Data Collection Requirements

This section will identify data needed for completing the required sections of the Rail Carrier Tool. **The Rail Carrier Tool Technical Documentation** explains more about the methodological structure and technical aspects of the Tool and the data entry process; this guide will focus primarily on the essentials for completing the Tool.

INTRODUCTORY SCREENS

Upon opening the 2020 Tool, you will see a **Welcome** screen, followed by five screens which orient you to the Tool. The **Assistance for New Users** screen appears first, and allows users to view an orientation video. Additional screens may be accessed from this screen, including Tool selection guidance, data collection needs, Tool help and navigation, and the SmartWay Partner Tool Schedule for 2021. These are general information screens and may be skipped if you are already familiar with the Tool. However, upon proceeding you **MUST** select the box at the bottom of the **Partnership Agreement** screen, indicating that you agree to the terms of the Partnership Agreement.

DATA REQUIREMENTS FOR ESTABLISHING YOUR DATA COLLECTION YEAR

Before beginning your data collection, identify the last calendar year for which you have full annual (12 months) data. This means that you have data from January of the calendar year through December of the same year. If you have not been in operation for a full year, you must collect **a minimum of three months' data** for input into the SmartWay Tool. In your next update year, you will be expected to submit a full year's data.

DATA REQUIREMENTS FOR SECTION 1: SPECIFY OFFICIAL PARTNER NAME

Your Partner Name is the official name that your customers would recognize for your company—in other words, the name someone hiring you would look for.

You must specify your company's official Partner Name under Section 1 of the **HOME** screen, exactly as you want it to appear on the SmartWay website.

For example, you may enter:






 ABC Company

 ABC Company, Inc.

Your company will be listed **exactly** as you've entered in Section 1. Therefore, it is important to pay special attention to proper capitalization, abbreviations, annotations, and punctuation.

DATA REQUIREMENTS FOR SECTION 2: ENTER COMPANY CONTACT INFORMATION

The SmartWay Tool asks for:

-  **General company information** such as location, web address, phone number, etc.
-  **A Working Contact**¹ for any questions about your company's participation and Tool submissions
-  **An Executive Contact**² for participation in awards and recognition events
-  **A Sustainability Contact (optional)**³ for information on company sustainability programs and outreach
-  **Other Contacts (optional)**: Additional contacts may include anyone who is not the Working, Executive, or Sustainability contact but may be involved with SmartWay (e.g., press/media contact, fleet manager, etc.).

Note that you **MUST** have at least two contacts listed in the contact information section of the Tool, and the Working and Executive Contacts must be different. SmartWay recommends developing an internal succession plan to make sure that your Tool submission schedule is maintained, in the event that a Working Contact is reassigned, or leaves the company for any reason.

DATA REQUIREMENTS FOR SECTION 3: CHARACTERIZE YOUR FLEETS

The SmartWay Rail Tool allows you to characterize your freight operations at the fleet level. In the Rail Tool, a fleet is defined as any business unit that a customer has discretion to hire.

NOTE: You may include multiple fleets in a single Tool submission.

SmartWay highly recommends developing your list of fleets offline using a company organization chart or perhaps a customer interface webpage. The best strategy is to have a clear idea of how to define your fleets before filling out the Tool.

For each fleet that a customer can hire, you will be asked to establish names for each of your fleets. Each Fleet Name will begin with your Partner Name and will include a Fleet Identifier. Use a Fleet Identifier that is recognizable by your customers. Next you need to specify the class for each fleet.

¹ The Working Contact is the individual designated by the Executive Contact to directly interface with SmartWay regarding specific tasks involved in the timely submission of the Tool. The Working Contact is responsible for coordinating the assembly of information to complete/update fleet data; completing and updating the Tool itself; maintaining direct communication with SmartWay; and keeping interested parties within the company apprised of relevant developments with SmartWay.) **NOTE:** To ensure that emails from SmartWay/EPA are not blocked, new Working Contacts may need to add SmartWay/EPA to their preferred list of trusted sources.

² The Executive Contact is the company executive who is responsible for agreeing to the requirements in the SmartWay Partnership Agreement, overseeing the Working Contact (as appropriate), and ensuring the timely submission of the Tool to SmartWay. The Executive Contact also represents the company at awards/recognition events. This person should be a Vice President or higher level representative for the company.

³ The Sustainability Contact may be the same as the Working or Executive Contact, but not the same as any Other Contacts.




Once you have defined your fleets, create the data entry forms for your fleet by selecting the **Create Fleet(s)** button at the bottom of the screen.

DATA REQUIREMENTS FOR SECTION 4: FLEET DATA

Once you have identified and characterized your fleets you will be asked to provide additional information for EACH fleet separately.




Data Requirements for "Power Units" Screen

You will need to provide power unit information about the selected fleet:

-  The number of power units or hours per year operated during the reporting period, by engine tier level. This may be broken out by line haul and switch engines. For Class 1 operators, please refer to R1 form, schedule 710 for details.
-  Class 1 operators must provide total locomotive unit miles per year for each fleet. This data is available in the R-1 forms for Class 1 railroads (see lines 8-14 of Schedule 755). Class 2 and 3 operators do not enter this information.
-  Detailed description of the data sources used to obtain your power unit data (e.g., R-1 Form section and line numbers).

Data Requirements for "Operations" Screen

You will need to provide operations information about the selected fleet:

-  Your fleet's annual fuel consumption by fuel type (diesel, biodiesel, LNG, CNG, and electric) and train category (freight, passenger, and switch). For Class 1 operators, please refer to R-1 form, schedule 750, lines 1 - 3 for details.
-  Your gross, revenue, and non-revenue ton-mile data. This data is available for Class 1 operators from R-1 Report.
 - Gross ton-mileage includes all train types (unit, way, through, etc.). Values should include total train weight (i.e., cars, locomotives, and freight). See R-1 report schedule 755, line 104 (multiply R1 value by 1,000 before entering in the tool).
 - Revenue ton-mileage covers freight miles billed to customers and excludes locomotive weight. See R-1 report schedule 755, line 110 (multiply R1 value by 1,000 before entering in the tool).
 - Non-revenue ton-miles includes all mileage NOT billed to customers. See R-1 report schedule 755, line 114 (multiply R1 value by 1,000 before entering in the tool).
-  Total railcar miles for each fleet. See R-1 report schedule 755 (multiply R1 value by 1,000 before entering in the tool).



NOTE: All mile and ton-mile data should be entered as actual miles and ton-miles, NOT 1,000s of miles and ton-miles (as presented in the R-1 Report).

Step 2 Data Entry

DOWNLOADING THE SMARTWAY RAIL CARRIER TOOL

To download the SmartWay Rail Tool, visit: <https://www.epa.gov/smartway/smartway-rail-carrier-tools-and-resources>. Save the Tool in a folder on your hard drive; this folder should house copies of your data and future updates.

HOW TO SET SECURITY LEVELS FOR THE SMARTWAY TOOLS

In some cases, Microsoft Excel will ask you to adjust your security settings before opening the Tool. Instructions should appear on your screen *if* you need to change your security settings before running the Tool.

If you need additional assistance with your security settings, download the full Rail Tool User Guide from <https://www.epa.gov/smartway/smartway-rail-carrier-tools-and-resources> and review the screen-by-screen guidance in Part 1: Downloading and Setting Up the Tool, or contact your Partner Account manager.

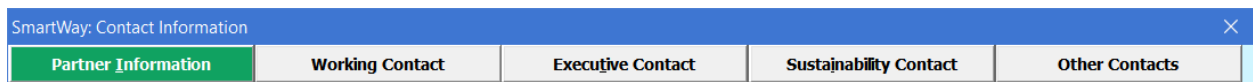
ENTERING PARTNER NAME

Under Step 1 on the **HOME** screen:

1. Type your Partner Name **EXACTLY** as you would like it to appear on the SmartWay website and in other EPA communications in the field as indicated.
2. Proceed to Section 2 to enter Contact Information.

ENTERING CONTACT INFORMATION

Under the **Partner Information** tab:



Note: Use the Tabs at the top of the window to navigate between the 5 information screens

Each field marked with an asterisk must be filled out. You will not be able to submit the Tool to SmartWay without this information.

1. **Enter the Company address, phone numbers, and website (optional).**
2. **Enter the Working Contact name and title.**

The **Working Contact** is the individual designated by the Executive Contact to directly interface with SmartWay regarding specific tasks involved in the timely submission of the Tool. The Working Contact is responsible for coordinating the assembly of information to complete/update fleet data; completing and updating the Tool itself; maintaining direct communication with SmartWay; and keeping interested parties within the company apprised of relevant developments with SmartWay. (NOTE: To ensure that e-mails from SmartWay/EPA are not blocked, new contacts may need to add SmartWay/EPA to their preferred list of trusted sources.)

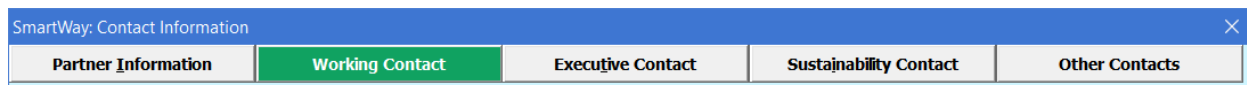
3. Enter the Executive Contact name and title.

The **Executive Contact** is the company executive who is responsible for agreeing to the requirements in the SmartWay Partnership Annual Agreement, overseeing the Working Contact (as appropriate), and ensuring the timely submission of the Tool to SmartWay. The Executive Contact also represents the company at awards/recognition events. This person should be a Vice President or higher level representative for the company

4. Enter the Sustainability Contact name and title (optional).

The **Sustainability Contact** is the individual assigned responsibility for monitoring the company's environmental performance. The Sustainability Contact may be the same as the Working or Executive Contact (and specified by checking the "Same as" boxes in the Sustainability Contact section), but cannot be the same as any Other Contact.

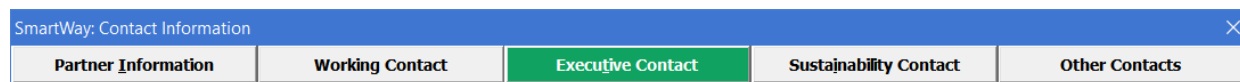
Under the Working Contact tab:



SmartWay: Contact Information				
Partner Information	Working Contact	Executive Contact	Sustainability Contact	Other Contacts

1. Enter the Working Contact information. If the Working Contact shares the same address as the company, you may select the [Use Partner Address](#) button to auto-populate the address section of this record. Enter the email address twice to confirm its accuracy. When confirmed a ✓ will appear to the right.

Under the Executive Contact tab:



SmartWay: Contact Information				
Partner Information	Working Contact	Executive Contact	Sustainability Contact	Other Contacts

1. Enter the Executive Contact information. If the Executive Contact shares the same address as the company, you may select the [Use Partner Address](#) button to auto-populate the address section of this record.

Under the Sustainability Contact tab:

SmartWay: Contact Information				
Partner Information	Working Contact	Executive Contact	Sustainability Contact	Other Contacts

1. Enter the Sustainability Contact information, if applicable. If the Sustainability Contact shares the same address as the company, you may select the [Use Partner Address](#) button to auto-populate the address section of this record.

Under the Other Contacts tab:

Partner Information	Working Contact	Executive Contact	Other Contacts
---------------------	-----------------	-------------------	----------------

1. Enter Other Contacts (if applicable) by selecting the [Add New contact](#) button.
2. Enter the first Other Contact then select **OK** when done.

Note: You must supply at least two unique contacts on the contact screen to ensure EPA has access to at least two people for Tool submission follow-up.

NOTE: In some cases, companies with multiple fleets will gather information from different sources within the company. You may find it useful to have this additional contact information stored within the Tool.

You can add more contacts to the **Other Contacts** box by repeating this process. If you wish to edit an existing contact's information, highlight the name you wish to edit and then select the [Edit Selected Contact](#) button. You can remove an existing contact by highlighting the contact and then selecting **Delete Selected Contact**.

To make sure you have filled out all required contact information, select **VALIDATE SCREEN** at the bottom of the screen on the [Partner Information](#) tab. If any information is missing or invalid, a dialogue box will appear informing you what additional information is required.

Next select the [HOME](#) button to return to the **Home** screen and go to Step 3.

COMPLETING THE FLEET DESCRIPTION(S) SCREEN

1. On the **Home** screen, select the [Fleet Description\(s\)](#) button to display the **Fleet Descriptions** screens.
2. Confirm that the Partner Name that appears automatically is correct and appropriate for your fleet. If not, make changes in the field under the heading "Partner Name."
3. Enter the "Fleet Identifier" for your first (or only) fleet. This field may be left blank if you only have one fleet. In this case your final Fleet Name will simply be your Partner Name.

4. Enter additional fleets as needed:
 - a. To enter another fleet, select the **Add Another Fleet** button.
 - b. To delete a fleet, select the box next to the row you wish to delete, and then select the **Delete Checked Rows** button.
 - c. Once you have confirmed or modified the Partner Name and specified the Fleet Identifiers, the full Fleet Names will be displayed on the screen to the right, exactly how they will be displayed on the SmartWay website.
5. Next, enter the Class of the associated rail fleet (1, 2, or 3):
 - a. Class 1 includes the largest North American rail companies;
 - b. Class 2 includes mid-sized, regional companies; and
 - c. Class 3 includes local shortline companies.

Once all fleet information has been input correctly, you may select the **CREATE FLEET(S)** button at the bottom of the page. You will be prompted then to confirm that you have identified all of your fleets. Return to the **Fleet Description(s)** screen if needed, otherwise select **OK** and you will automatically be returned to the **Home** screen.

SELECTING A FLEET FOR DATA ENTRY

1. Using your mouse, on the **Home** screen select and highlight the name of the fleet for which you wish to enter data.
2. Double click the name; you will then be taken to the **Power Units data entry** screen for that fleet.

COMPLETING THE POWER UNITS SCREEN

You will need to provide power unit information about the selected fleet.

- Specify the number of power units or hours per year operated during the reporting period, by engine tier level. Depending up the **Data Input Method** selected, this information may be broken out by line haul and switch engines. Under method 1 you may aggregate your fleet's line-haul and switch units together, while method 2 requires that you report the unit type counts separately. Methods 3 and 4 are similar, but require inputting hours of operation by tier, rather than unit counts.⁴ For Class 1 operators, please refer to R1 form, schedule 710 for details. The different engine tier level definitions are provided below:

- Non-tier – manufactured before 1972
- Tier 0 – manufactured between 1972 and 2001
- Tier 0+ – manufactured between 1972 and 2001, and remanufactured after 2010
- Tier 1 – manufactured between 2002 and 2004
- Tier 1 – manufactured between 2002 and 2004 and remanufactured after 2010
- Tier 2 – manufactured between 2005 and 2011
- Tier 2+ – manufactured between 2005 and 2011 and remanufactured after 2013
- Tier 3 – manufactured between 2012 and 2014
- Tier 4 – manufactured after 2014

- Next, Class 1 operators must enter your fleet's Total Locomotive Unit Miles/Year data under Part B. Break out your unit miles data by line haul and switching categories, as appropriate. This data is available in the R-1 forms for Class 1 railroads (see lines 8-14 of Schedule 755). Class 2 and 3 operators do not enter this information.
- Finally, you will need to provide a detailed description of the data sources used to obtain your power unit data (e.g., R-1 Form section and line numbers).

Part A: Power Unit Inventory

Select Data Input Method

- ☒ 1. # of total Power Units
- ☐ 2. # Power units - line haul vs. switch
- ☐ 3. hours per tier
- ☐ 4. hours per tier - line haul and switch

? Engine Tier # of Power Units

?	non-tier	
?	0	
?	0+	
?	1	
?	1+	
?	2	
?	2+	
?	3	
?	4	

Part B. Total Locomotive Unit Miles/Year

?	Unit Trains	
?	Way Trains	
?	Through Trains	
	Subtotal	
?	Train Switching	
?	Yard Switching	
	Subtotal	
	Total	

⁴ In general, method 4 will provide the most accurate estimate for NO_x and PM emissions.

COMPLETING THE OPERATIONS SCREEN

You will need to provide operations information about the selected fleet:

1. Specify your fleet's annual fuel consumption and ton-mile data. Record annual fuel use per year by fuel type (diesel, biodiesel, LNG, CNG, and electric) and train category (freight, passenger, and switch).
 - a. Petroleum diesel, biodiesel, and LNG entries must be in gallons per year.
 - b. Specify CNG units indicating standard cubic feet or gasoline-equivalent gallons per year.
 - c. Electricity use is specified in kWh/year.
 - d. If you indicate biodiesel consumption data, you must also specify the fleet average fuel blend level (between 0 and 100).
 - e. For Class 1 operators, please refer to R-1 form, schedule 750, lines 1 - 3 for details.
2. Specify your gross, revenue, and non-revenue ton-mile data. This data is available for Class 1 operators from R-1 Report Section 755, lines 104, 110, and 113, respectively.
3. Specify your total annual railcar miles for the fleet.

All Freight

Fuel Used	Units	Freight	Passenger	Switching ?	Total
Diesel ?	(gallons/year)	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Biodiesel: B <input type="text"/> ?	(gallons/year)	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
LNG	(gallons/year)	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
CNG	(cubic feet/year) ?	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Electric	(kWh/year)	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

? Gross Ton Miles/Year	<input type="text"/>	R1: 755-104
? Revenue Freight Ton Miles/Year	<input type="text"/>	R1: 755-110
? Non-Revenue Freight Ton Miles/Year	<input type="text"/>	R1: 755-113
? Enter Total Railcar Miles:	<input type="text"/>	

NOTE: All ton-mile data should be entered as actual ton-miles, NOT 1,000s of ton-miles (as presented in the R-1 Report).

SUBMITTING YOUR TOOL TO EPA

Once you have entered data for each of your rail fleets in Step 4 of the **Home** screen, you may create final submittal files.

1. Select the **Generate a (.xml) data file** which will open a new screen.
2. Select the checkbox to indicate you understand the terms of the SmartWay Partnership Agreement once again.
3. When ready, select **NEXT** to create a file with the following naming convention: Rail_PartnerName_Year_ Vo.xml⁵

For example, Rail_ABCompany_ 2020 _Vo.xml

where **PartnerName** is your company's name as entered for Step 1 on the **Home** screen, and Year indicates the year for which you are submitting your data.

1. Next specify the folder where you would like to save the .xml file, and a screen will appear.
2. Follow these instructions for submitting your .xml and .xlsm files to SmartWay. Note that the .xml file is approximately 10 times smaller than the .xlsm file.
3. Upon selecting **NEXT**, a screen will appear that allows you to close the RailCarrier Tool or return to the **Home** screen.

■ **NOTE:** DO NOT ZIP the .xlsm and .xml files. Send them to EPA as normal files attached in an e-mail. EPA security will not allow zipped files through the EPA firewall.

■ **NOTE:** DO NOT CHANGE THE NAME OF THE XML OR XLS FILES.

Please visit <https://www.epa.gov/smartway/smartway-rail-carrier-tools-and-resources> for additional resources, including printable data collection worksheets, and technical documentation, for more in depth exploration of each section of the Rail Carrier Tool.

⁵ If you create the XML file multiple times the file name will increment each time (e.g., Rail_ABCompany_2020_V1.XML for the second iteration, etc).

Step 3 Results and Summary Reports

The **View Summary Data Reports** section gives you access to 7 reports to help you understand your data and use it to make better performance decisions. You can access these reports by selecting **View Summary Data Reports** at the bottom of the **Home** screen.

Please select the report you would like to view:

Internal Metrics	Estimates fleet-level CO ₂ , NO _x , PM, and Black Carbon performance, expressed in grams per ton-mile (gross, revenue and non-revenue), and grams per mile (railcar and truck-equivalent miles).
Fleet Summary	Displays the name, Class and contact for each fleet defined.
Power Units	Displays all of the data you entered in the Power Units Information section.
Operations	Displays all of the data you entered in the Operations section.
Comments	Displays all of the comments that have been entered throughout the tool.
Partner Feedback Summary	Displays the feedback you provided in the Feedback section.
Public Disclosure Report	Displays the Scope 1, Scope 2, biogenic and non-carbon emissions.

The **Feedback** section allows you to provide EPA with general feedback regarding the SmartWay program. This information is optional and is not required in order to submit your Rail Carrier Tool data to EPA. Selecting the [Give Us Feedback](#) button under item #5 on the **Home** screen will open this form.



For more information:

U. S. Environmental Protection Agency
Office of Transportation and Air Quality
1200 Pennsylvania Ave. NW
Washington, DC 20460
(734) 214-4333

www.epa.gov/transportation-air-pollution-and-climate-change

U. S. Environmental Protection Agency
National Vehicle and Fuel Emissions Laboratory
2565 Plymouth Rd.
Ann Arbor, MI 48105
(734) 214-4200

www.epa.gov/aboutepa/about-national-vehicle-and-fuel-emissions-laboratory-nvfel