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# From Methodology to Collecting the Data That Drive Operational Improvement

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# SmartWay Snapshot

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- Since 2004, SmartWay has grown to about 3,000 partners with broad freight industry support
  - Top 100 U.S. truck carriers
  - All Class 1 rail lines
  - Fortune 500 shippers from key economic sectors
  - Major logistics firms
- Since 2004, SmartWay Partners saved:
  - 51 million metric tons of CO<sub>2</sub> (+ significant NOx & PM savings)
  - 120 million barrels of oil and 5 billion gallons of fuel
  - \$16.8 billion dollars in fuel costs
- *Equivalent to taking 10 million cars off the road for one year*

# SmartWay Success Factors

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- SmartWay provides balanced approach
  - *Simplicity* – standard benchmarking tools and methods
  - *Accuracy* – performance based assessment of CO<sub>2</sub>, NO<sub>x</sub>, PM
  - *Flexibility* – multiple metrics, multimodal, multi-fleet, multi-categories
  - *Transparency* – manageable granularity, protects sensitive info
- EPA lends credibility and neutrality
  - Facilitates exchange of performance data to inform marketplace
  - Data QA/QC program ensures rigor
- SmartWay triggers market mechanisms
  - Based on business case for freight sustainability
  - Partner incentives, e.g., shipper demand for cleaner/greener carriers
- SmartWay provides supplemental value for Partners
  - Technology verification
  - Operational best practices

# Carrier Data Collected

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- Short Haul vs. Long Haul
- Fuel types and gallons consumed
- Particulate Matter Reduction (pre-2006)
- “Cube Out” Percentage
- Model year and truck class
- Miles (revenue and empty)
- Average Payload (Tons) – Cargo Weight Only
- Average Capacity Volume (Cubic Feet)
- Percent Capacity Utilization (Excluding Empty Miles)
- Road Type / Speed Categories
- Average Annual Idle Hours per Truck

# SmartWay Carrier Benchmarking

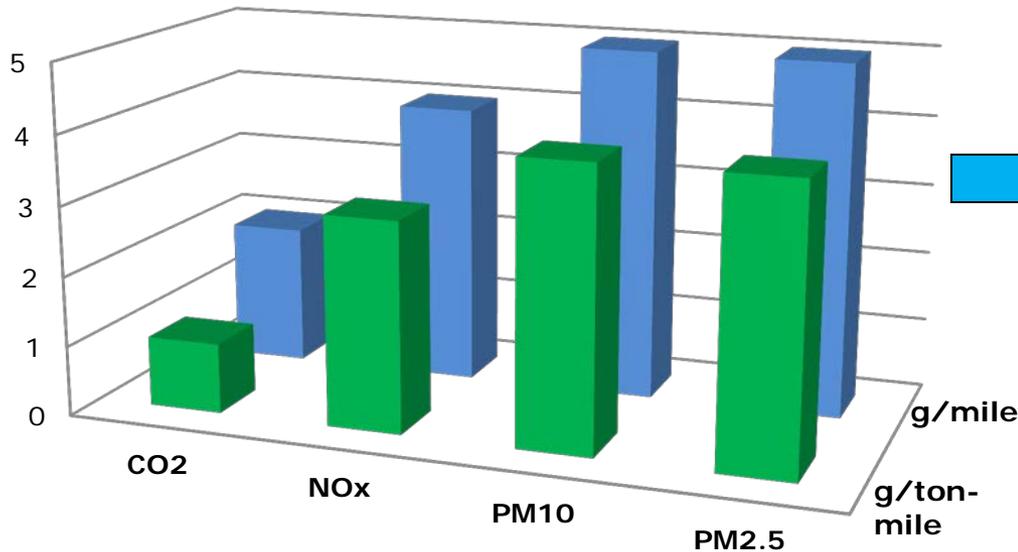
15 Carrier Categories

- (TL, LTL, Refrigerated, Tanker, etc.)

8 Emission Metrics

## SmartWay Carrier Rating

Pollutant Specific Performance Levels



## Quintile Rankings

(ex: Truckload CO<sub>2</sub> g/mile)

Top 20%  
TL Dry  
Vans

• 1550 g/mile

Second  
20% TL  
Dry Vans

• 1650 g/mile

Middle  
20% TL  
Dry Vans

• 1750 g/mile

Fourth  
20% TL  
Dry Vans

• 1850 g/mile

Bottom  
20% TL  
Dry Vans

• 1950 g/mile

# Shipper Data Collected

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- North American Industry Classification System (NAICS) code(s)
- Accounting of all SmartWay carriers utilized
  - All truck, rail, multimodal and logistics providers
- Activity data for amount of freight, distance shipped
  - Total miles contracted and/or ton-miles contracted by SmartWay carrier and non-SmartWay carrier category
  - Freight characterization (avg density, avg payload)
- Mileage and ton-mileage data recommended
  - Flexibility for other data types
- *Optional* data on operational, mode shift strategies

# SmartWay for Carbon Reporting

## Step 1- Complete the Shipper Tool

SmartWay Introduction

**Shipper**  
United States Version: 2.0.10 BETA

**Introduction**

Welcome to the SmartWay Shipper Tool. This version of the Shipper Tool encompasses ground truck and rail freight movements. A future version will also cover marine and air freight movement.

For additional information such as the tool user guide, technical manual or other support materials, click on the following weblink:

[SmartWay Shipper Tool Website](#)

Or call the SmartWay Helpline at: (734) 214-4767

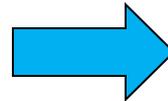
Or email the Helpline at: smartway\_transport@epa.gov

**Tool Help and Navigation**

Throughout the tool, you will see numerous buttons. Becoming familiar with these buttons will make completing the tool easier and faster.

- HELP** Provides instructions for completing each screen
- ADD/VIEW COMMENTS** Allows you to add notes or clarifications (button becomes yellow if a comment exists)
- VALIDATE SCREEN** Checks your data input for missing or invalid information
- ZOOM IN** Enlarges the text on the screen
- PRINT SCREEN** Sends an image of the screen to your default printer
- ?** Provides additional information about data entry fields

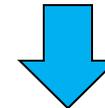
**ZOOM IN** **NEXT**



## Step 2 - Generate SmartWay Data Reports

**EMISSIONS SUMMARY**  
Partner Name: ABC Shipper  
Company Name: ABC Shipper

Mode	CO2 g/Mile	CO2 g/Ton-Mile	CO2 Mass Emissions (Tons/Year)
Rail	1,163	20	111,333
Truck	2,044	285	62,722
Multi-modal Logistics	1,200	50	2,756
Logistics	2,300	500	41,337
<b>Composite/Total*</b>	<b>1,212</b>	<b>37</b>	<b>218,147</b>

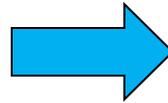


## Step 3 - Use results in:

- Benchmarking and Operations
- Environmental Reporting
- Carbon Disclosure Submittals
- Shareholder Response

# SmartWay for Carbon Optimization

## Step 1 - Complete Shipper Strategies analysis



## Step 2 - Generate SmartWay Data Reports

SmartWay Shipper Tool: ABC Shipper

Select Carrier(s)	Emissions or % Smartway	Activity Data	% SmartWay	Emissions Summary	Carrier Performance
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**INPUTS ON THIS SCREEN ARE OPTIONAL - NOT REQUIRED FOR EPA SUBMITTAL.**  
 Previously in this tool, you calculated the emissions resulting from your movement of freight using various carriers. On this screen, you enter your company's strategies to reduce emissions BEFORE freight is placed on transport. All strategies on this screen are based on efficiency improvements. In other words, this tab calculates the emissions that would have happened had you NOT implemented your efficiency improvements. Emissions results are calculated assuming a 0 results only provide a rough estimate of emissions impacts. SmartWay intends to improve the functionality of this tab in future tool.

**Add Activity**

Select a category: Miles removed from system  
 Pick an activity:

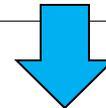
Use the link below documentation of Basic Quantification

#	Name of Activity	Carrier Mode	Percent Improvement	Results (Tons/Year)			
				CO2	NOx	PM 10	PM 2.5
1.	cube optimization	Truck	8	5,454	35.5	1.73	1.69
	cube optimization	Multi-Modal	5	145	1.5	0.08	0.08
	Miles removed from system	Logistics	4	1,722	9.9	0.57	0.57
2.	Packaging weight savings	Truck	15	11,069	72.1	3.52	3.42
	Package weight reduction	Multi-Modal	7	207	2.1	0.11	0.11
	Weight removed from system	Logistics	4	1,722	9.9	0.57	0.57
<b>Total Results (Tons/Year)</b>				27,304	278.6	10.74	10.59

### SHIPPER STRATEGIES

Partner Name: ABC Shipper  
 Company Name: ABC Shipper

Activity Category	Activity Name	Mode	Improvement	CO2
Miles removed from system	cube optimization	Rail	5%	5,860
		Truck	8%	5,454
		Multi-modal	5%	145
		Logistics	4%	1,722
Weight removed from system	Packaging weight savings	Rail	1%	1,125
		Truck	15%	11,069
		Multi-modal	7%	207
		Logistics	4%	1,722
<b>Total Results (Tons/Year)</b>				27,304



## Step 3 - Use results in:

- Performance tracking
- Progress reporting
- Case Studies



# Driving Operational Improvement

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- SmartWay Technologies
- Trends, Indicators, and Partner Statistics
- SmartDriver Online Training
- SmartWay Finance
- SmartWay Case Studies
- SmartWay Reports, Best Practices
- SmartWay Partner Account Managers

For more information:

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**[www.epa.gov/smartway](http://www.epa.gov/smartway)**

**[smartway\\_transport@epa.gov](mailto:smartway_transport@epa.gov)**

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