

SmartWay: Incentivizing Green Freight across Asia and Europe



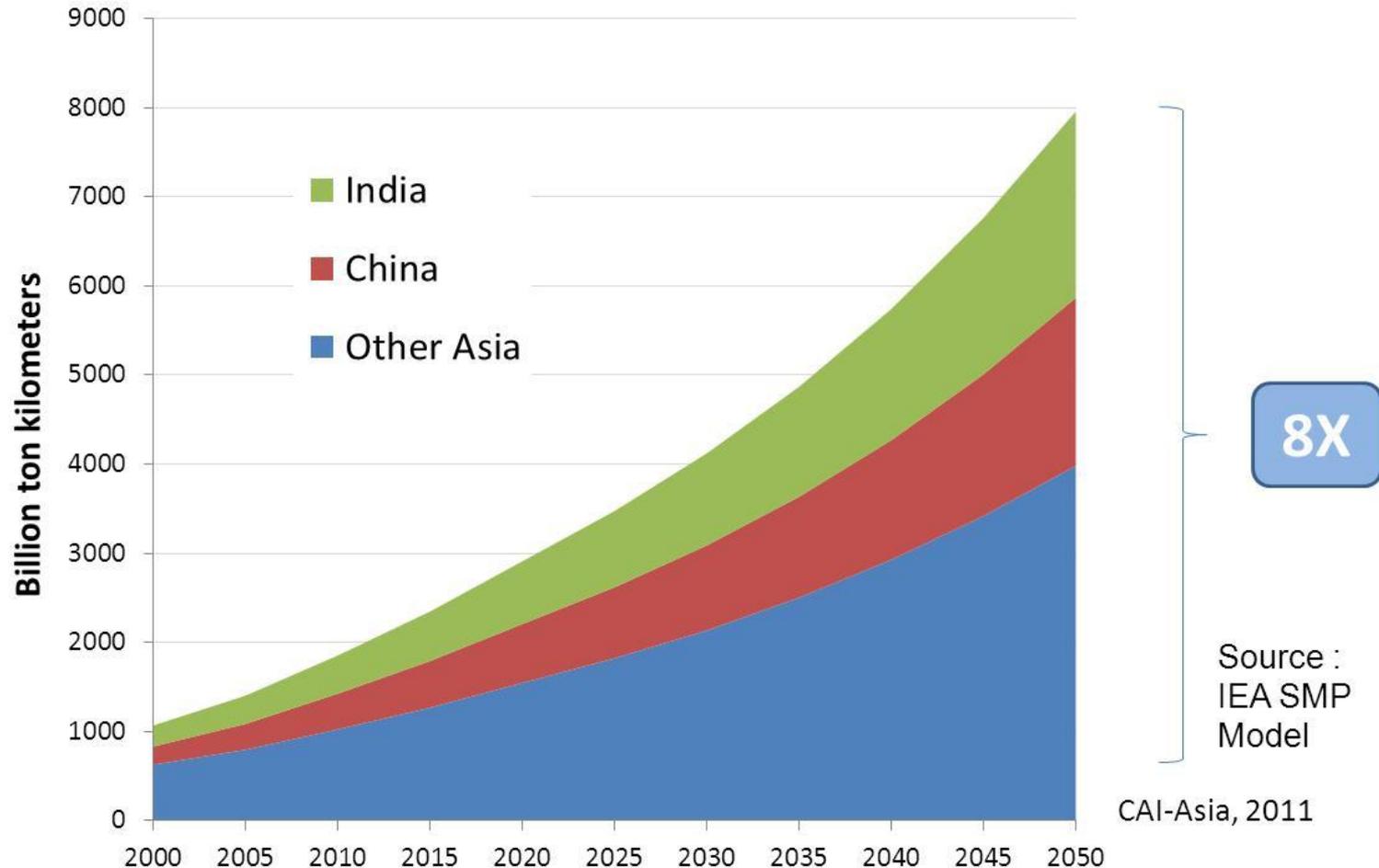
Meeting of the CAREC Federation of Carrier and Forwarder Associations

ADB

4-5 June 2012

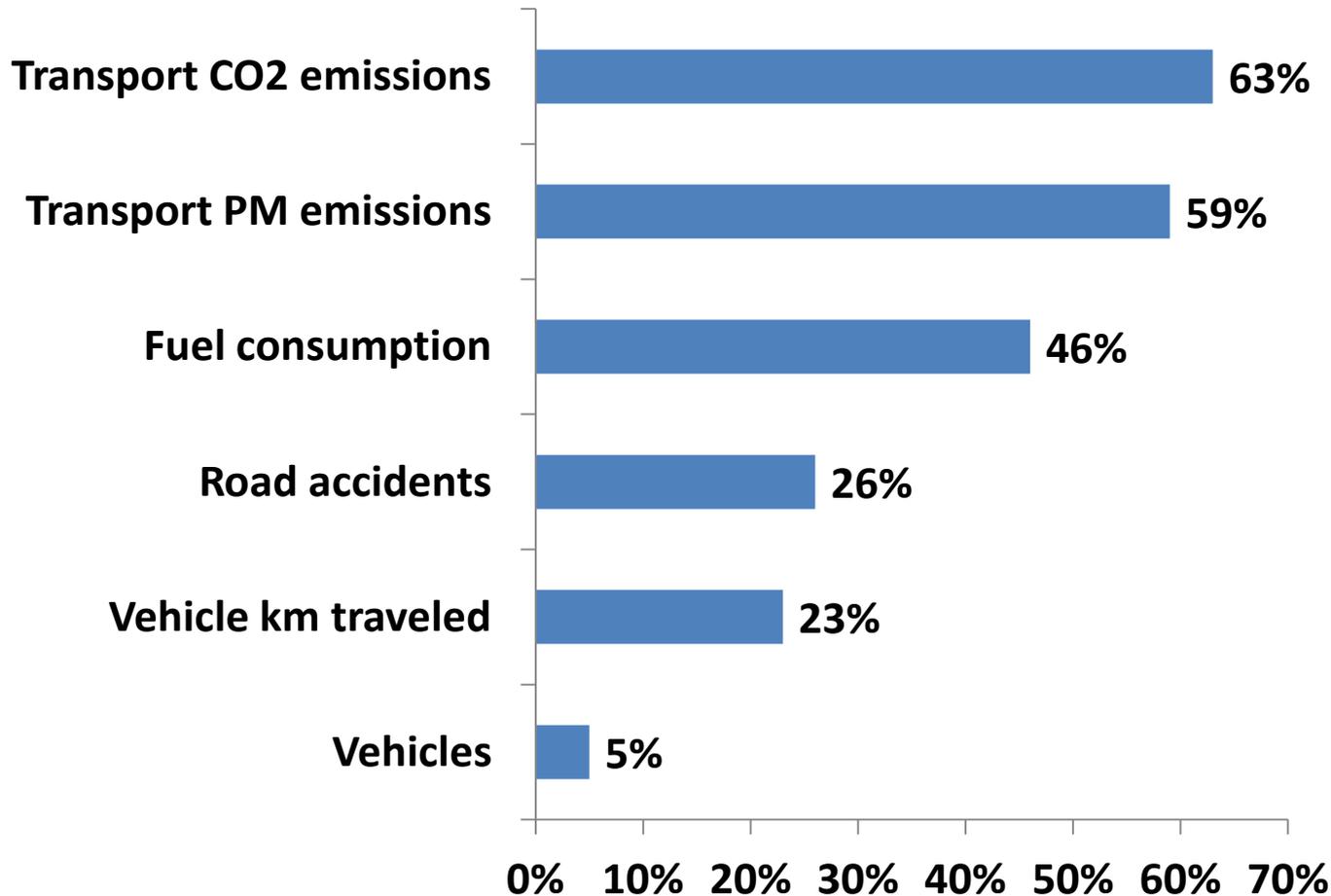
The rapid growth of the freight sector

Freight now accounts for 35% of the world's transport energy use, and is growing more rapidly than passenger transportation



Impacts from road-based freight

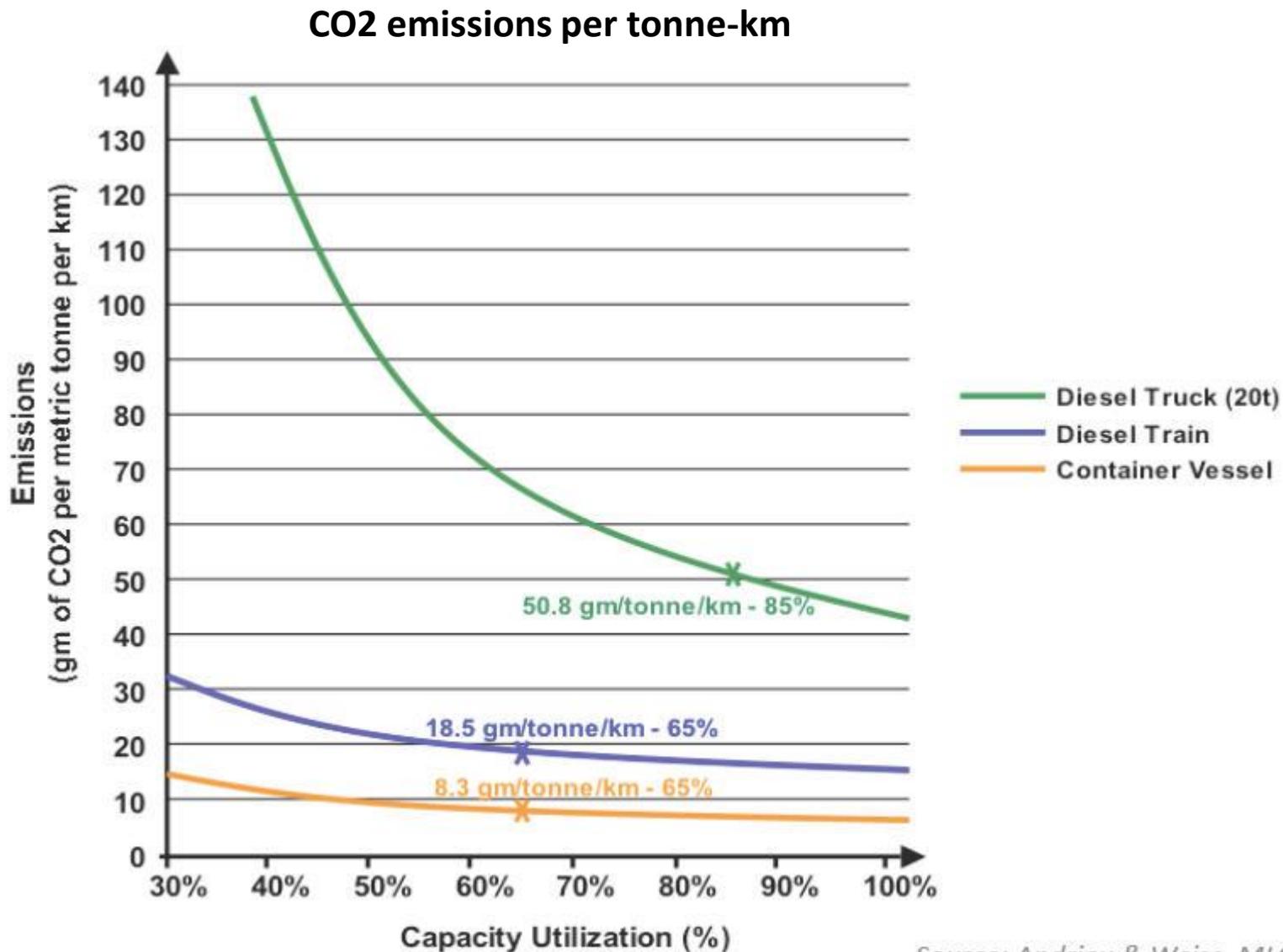
Example: Freight trucks in India



Source: Clean Air Initiative for Asian Cities



Mode choice and emissions



Source: Andrieu & Weiss, MLOG 2008

Emission factors by mode

	GHG Protocol Initiative, US ¹	NTM, Sweden ²	McKinnon* UK Freight ³	McKinnon** UK Freight ³
 LH	570	552	N/A	N/A
 SH	1,580	N/A	1,420 to 1,925	1,420 to 1,925
 40t	30	50	52	138
 Diesel	20	17	22	35
 Ocean	10	8	7	7

Emissions expressed in grams CO₂ per metric tonne per km

Source [1] : WRI-WBCSD (2003): GHG Protocol Initiative

Source [2] : Network for Transport and the Environment (NTM), Sweden as quoted by Mikel Hansen, Maersk Logistics (2007)

Source [3] : A. McKinnon (2007): CO₂ Emissions from Freight Transport in the UK

* Emission based on load factor equal to 85% for truck shipment and 65% for rail shipment.

** Emission based on a load factor equal to 40% for heavy truck and rail shipment.

LH = Long haul (>1,600 km); SH = Short haul (<500 km).

SmartWay in the United States



- **Partners:**

- US EPA
- Industry - currently 2700+ partners (carriers, shippers) with over 650,000 trucks and 60 billion miles per year (approx 30% of US road freight)
- Strongly supported by American Trucking Associations (ATA)

- **Start date:** 2004

- **Aim:** voluntary program to improve energy efficiency and lower GHG emissions and air pollution from freight transport

- **Results since 2004**

- 16.5 million tons of CO₂, 235,000 tons NO_x, 9,100 tons PM
- 5 million barrels of oil imports, 6.1 billion dollars in fuel costs
- Equivalent to taking over 3 million cars off the road for 1 year

SmartWay components

1. Supply Chain Partnership

- Multimodal Operations
- Models and Benchmarking
- Carbon Footprints
- Technology Adoption
- Fuel/\$/Emissions Savings

2. Technology Programs

- Heavy-Duty truck testing
- SmartWay Tractor/Trailer
- SmartWay certified technologies
- Technology verification

3. Finance Programs

- Innovative loan programs
- Financial mechanisms
- Grants

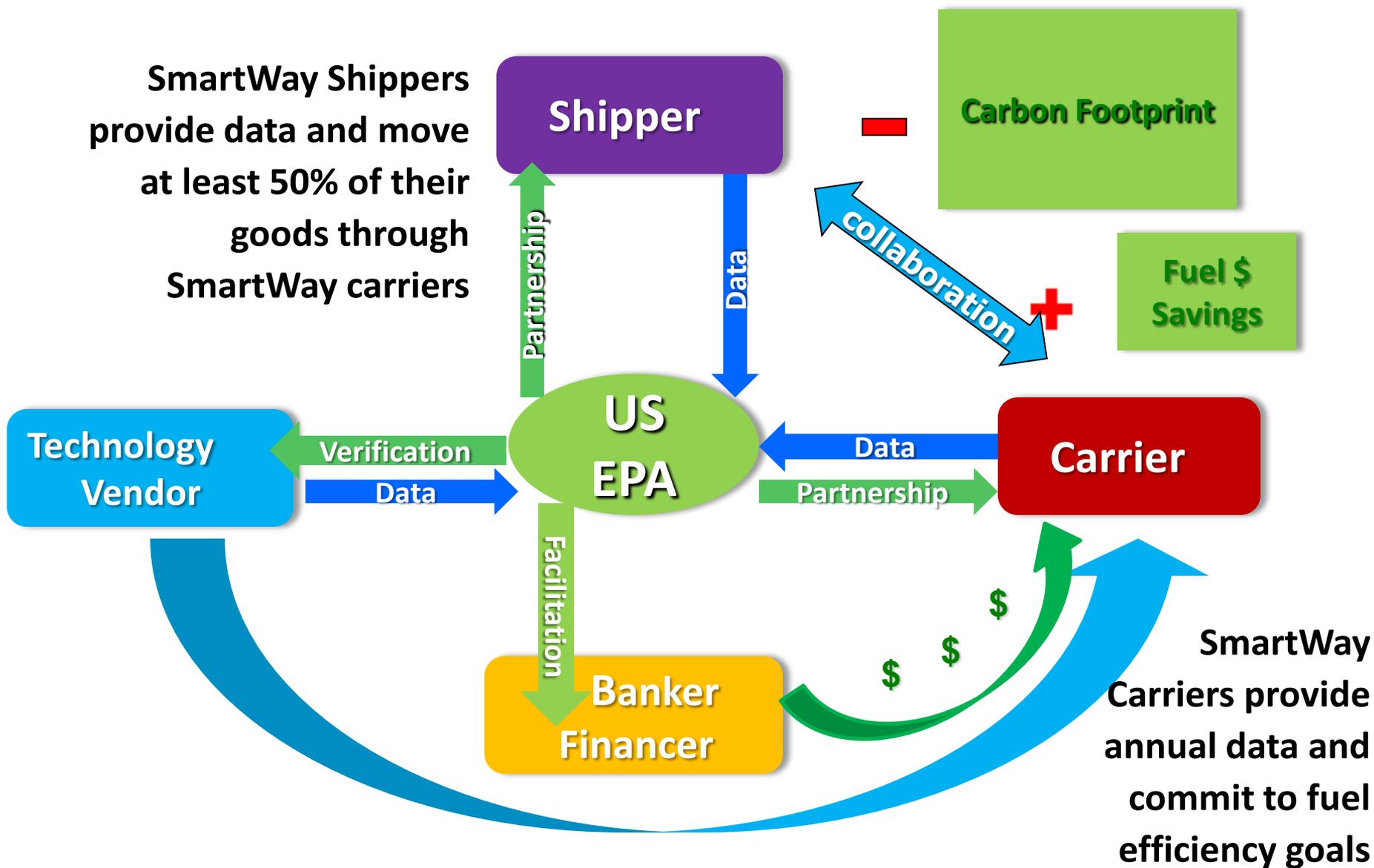
4. Brand Marketing

- SmartWay Logo
- Successful multi-media campaigns
- Educational Materials
- Annual Awards

5. Light Duty Vehicles

- SmartWay certified vehicles
- Consumer Education

Structure of US SmartWay



How does SmartWay work?



○ Shippers:

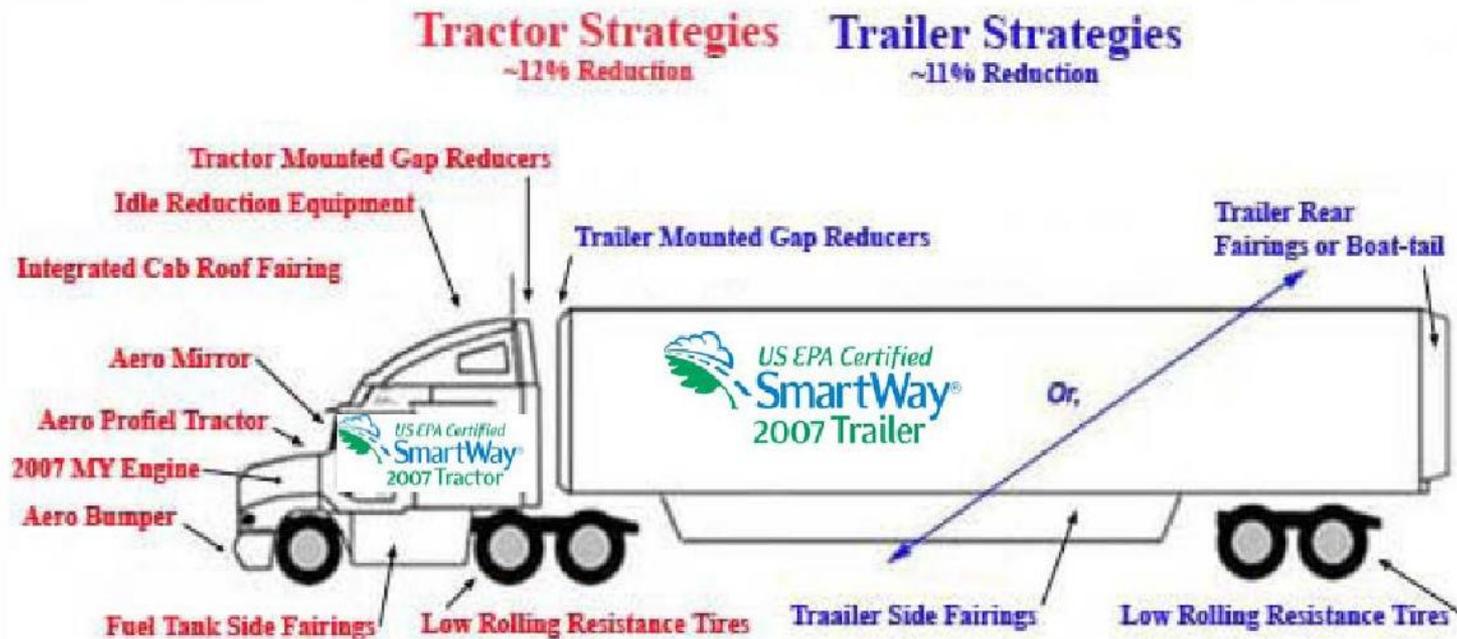
- Top of the supply chain, drive marketplace demand
- Give preferred status to SmartWay Carrier Partners
- Get better data to improve their own shipping operations
- Modify logistics operations to improve efficiency & reduce emissions, for example:
 - Inter-modal Shipping
 - Full Truck Loads
 - Warehouse Improvements
 - Idle-Reduction at Docks
- Get recognition and PR value with SmartWay brand

Carriers:

- Gain competitive advantage:
 - Preferred status, plus
 - Fuel efficiency, savings
- Reduce emissions
- Integrate fuel saving technologies and strategies into fleets, such as:
 - Idle Reduction
 - Improved Aerodynamics
 - Efficient Tire Systems
 - Driver Training
 - Renewable Fuels
 - Advanced Lubricants
- Get recognition and PR value with SmartWay brand

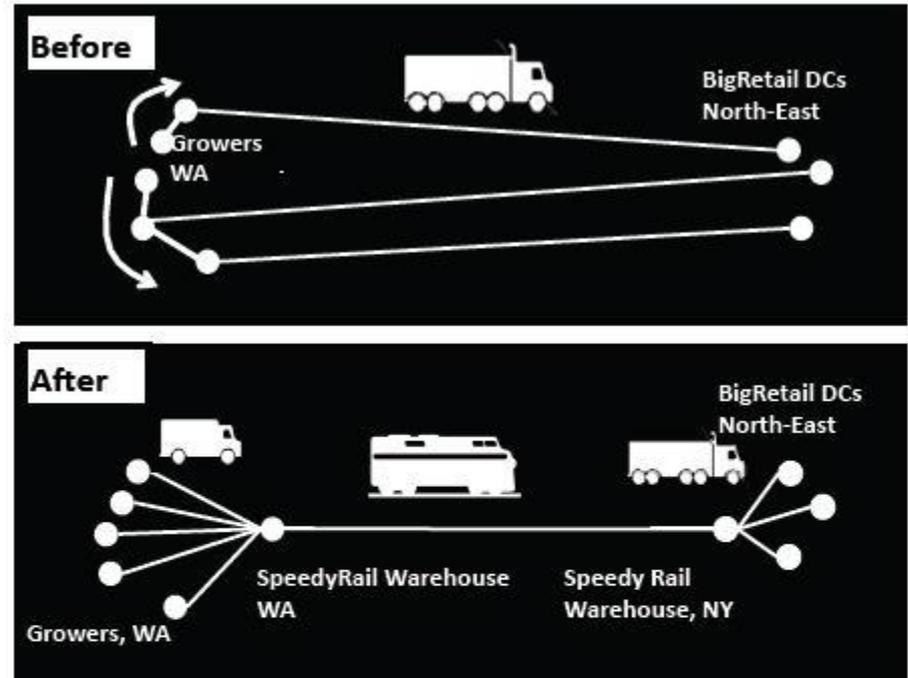
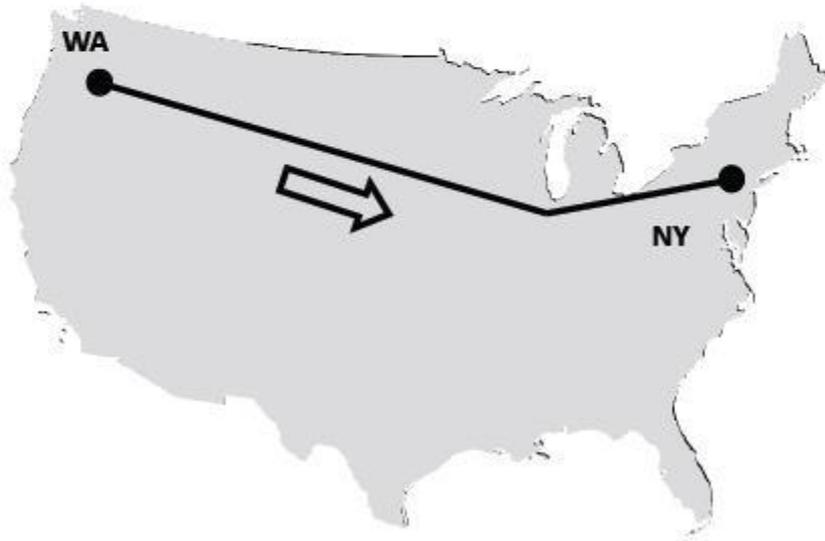
Vehicle efficiencies

A SmartWay Truck is 20 to 25% more efficient than an average truck on the road today.



SmartWay US: Mode shift example

Improvement:
Switching from truck to rail.



Lessons learned from US SmartWay

- 1. Importance of shipper participation in program**
- 2. Value of knowledge sharing in partnership for technology diffusion**
- 3. Availability of quality tools and services**
- 4. As program expands internationally, maintain quality to avoid dilution of brand**
- 5. Advantages of voluntary private public partnerships**

SmartWay Europe

- **Partners:** private sector
- **Start date:** 2012
- **Scope:** road freight
- **Aim:** independent voluntary program for improving environmental performance of road freight transport in Europe, reducing carbon emissions by:
 - Establishing a **platform for monitoring and reporting of carbon emissions**, that could assist in the procurement of transportation services and based on existing standards (e.g. WRI/WBCSD Greenhouse Gas Protocol, CEN, etc).
 - Promoting **collaboration between carriers and shippers** in driving improvement actions and monitoring progress
 - Establishing a **certification system** to reward shippers and carriers who fully participate in the program

Pilot project in Guangdong Province, China

Pilot demonstration 2008-09

- ❑ Requested by Guangzhou local government
- ❑ Tire technologies and vehicle aerodynamics tested on 14 trucks in three fleets
- ❑ Inputs from international best practice and experts
- ❑ Results: 3.5%-17% fuel savings

Large fleet demonstration (on-going)

- ❑ 1200 trucks
- ❑ Freight logistics platform
- ❑ Capacity building



ADB initiative on SmartWay Asia-Pacific

- ❑ Launch to take place at ADB's Transport Forum (November 2012)**
- ❑ Development of SmartWay voluntary initiative for the Asia and Pacific region**
- ❑ Partnership with US EPA (US Environmental Protection Agency)**
- ❑ Building upon initial efforts of the Clean Air Initiative for Asian Cities**
- ❑ Provision of consultant resources to identify cost-effective green freight opportunities**