

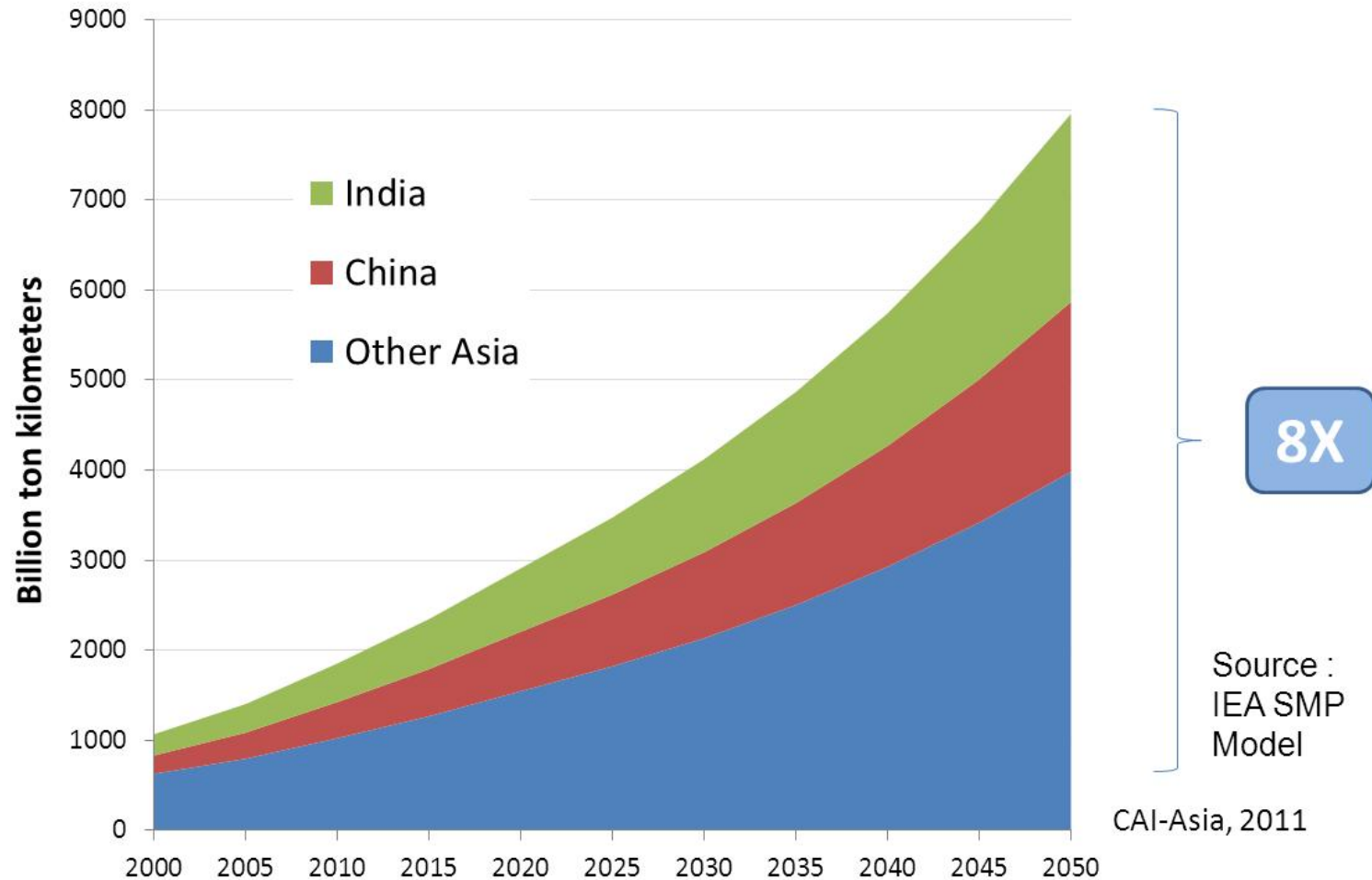
SmartWay: Incentivizing Green Freight across Asia and Europe



Meeting of the CAREC Federation of Carrier and Forwarder Associations

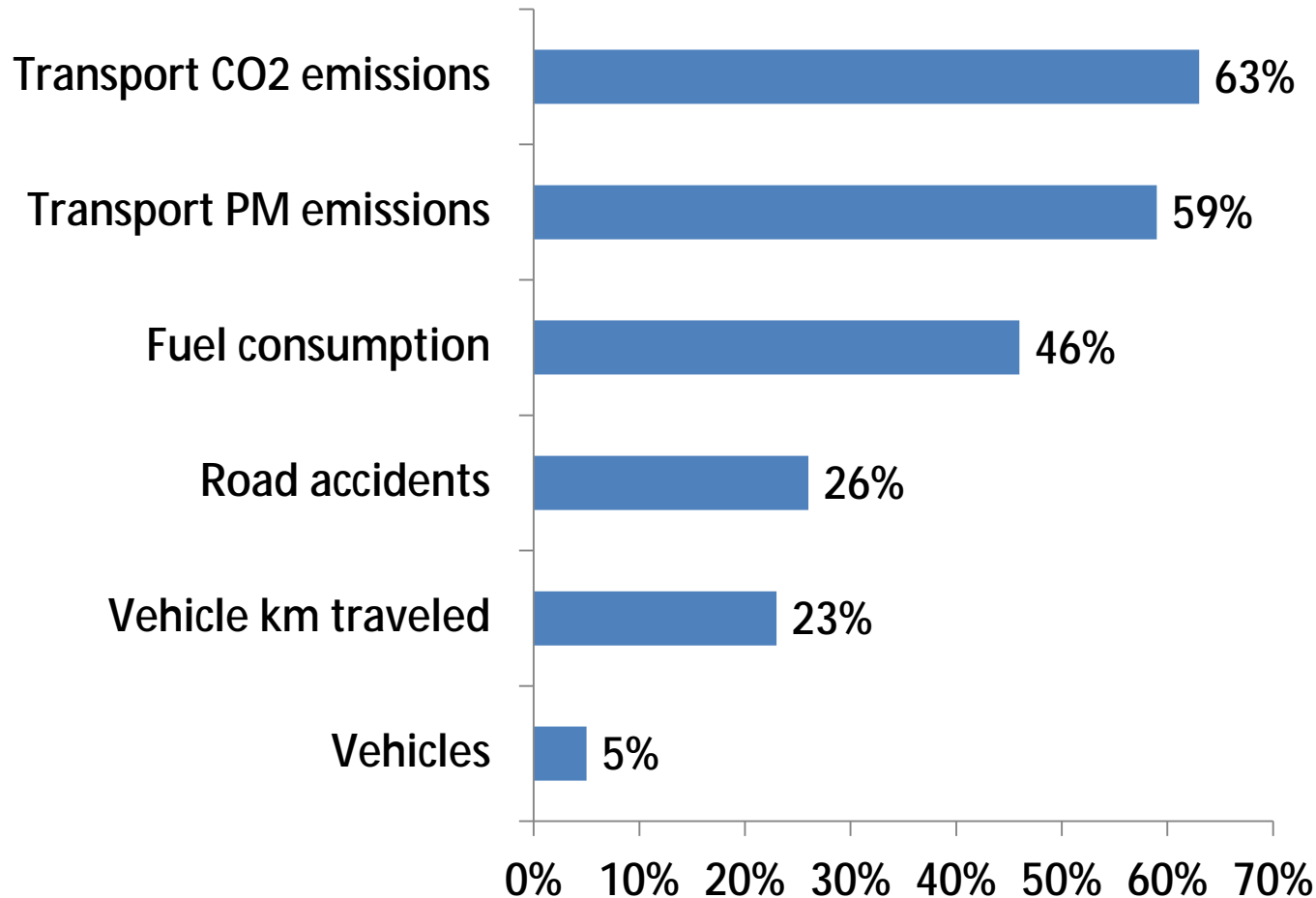
The rapid growth of the freight sector

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

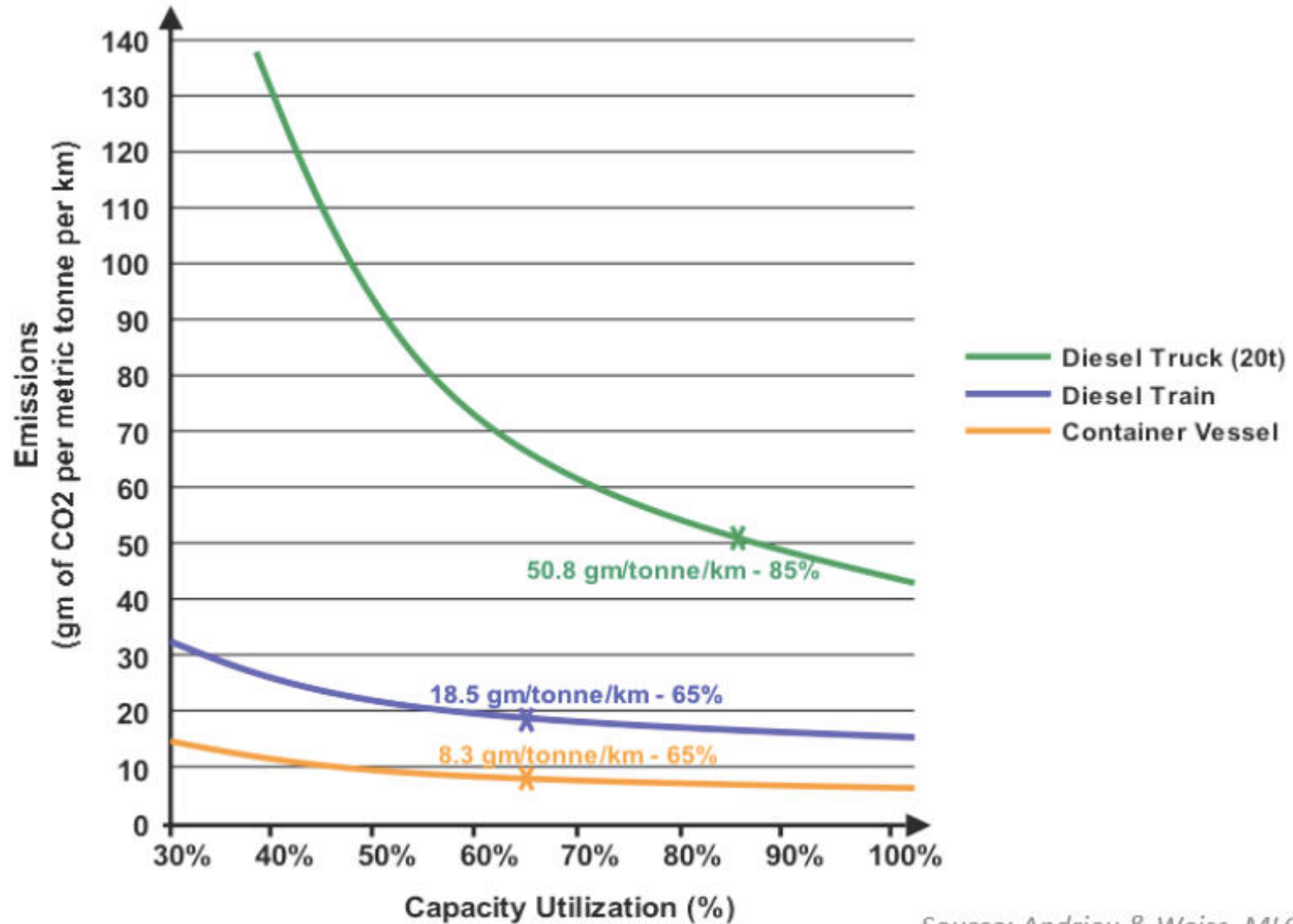


Source: Clean Air Initiative for Asian Cities








Mode choice and emissions

CO2 emissions per tonne-km



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

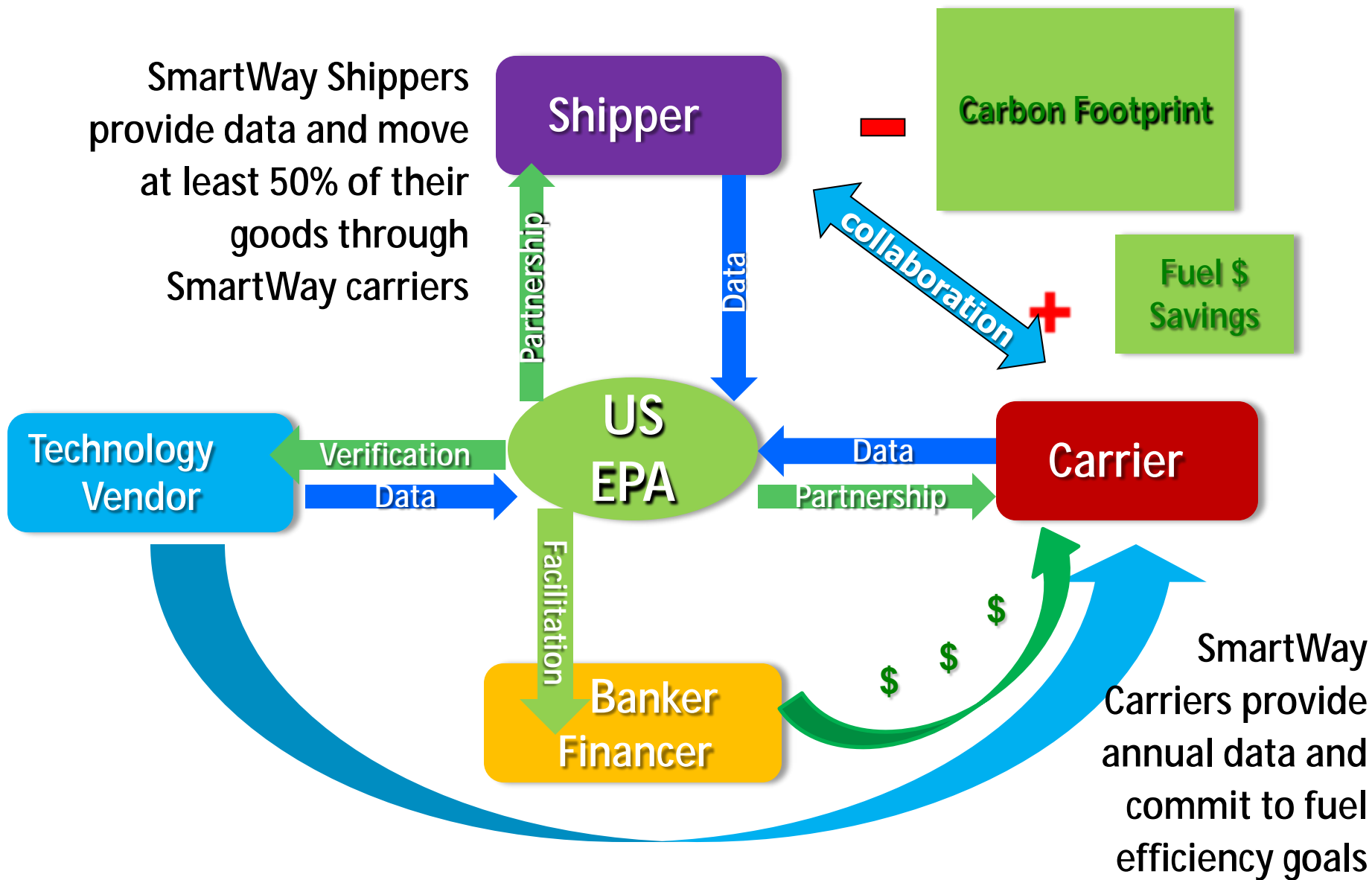
4. Brand Marketing

- 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:

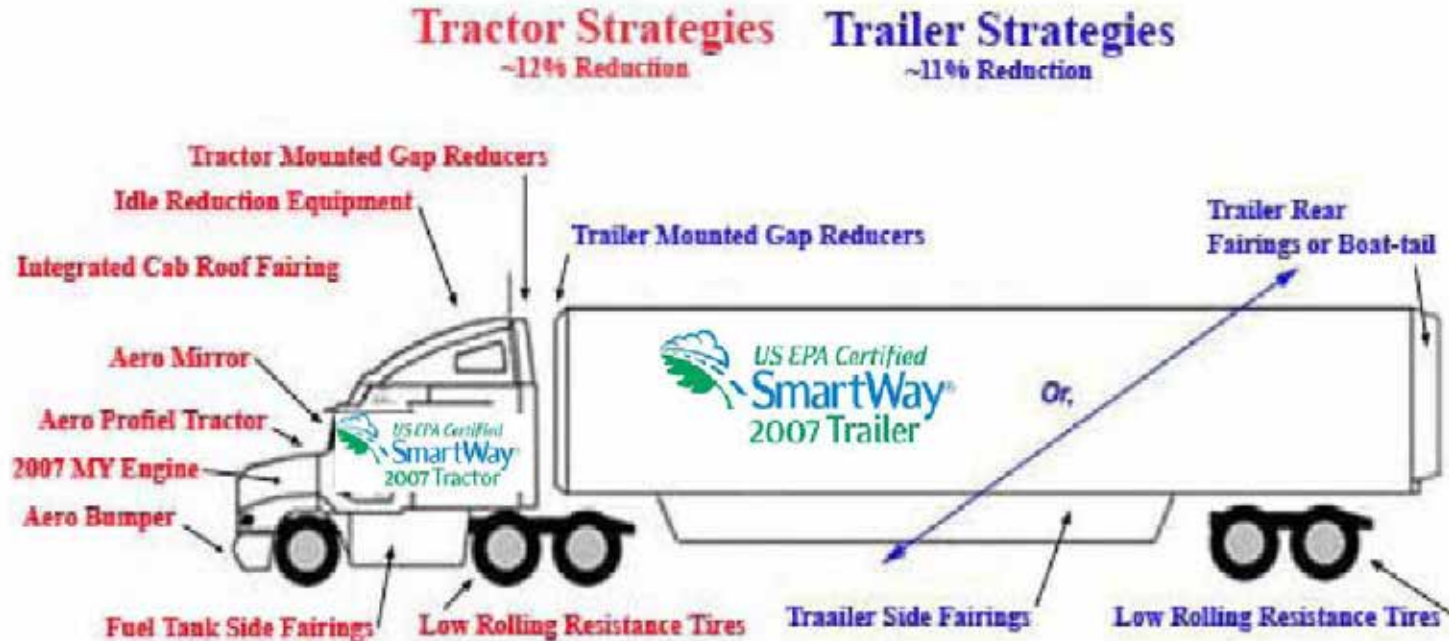
- Top of the supply chain, drive marketplace demand
- Give preferred status to SmartWay Carrier Partners
- Get better data to improve their own shipping operations
- Modify logistics operations to improve efficiency & reduce emissions, for example:
 - Inter-modal Shipping
 - Full Truck Loads
 - Warehouse 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

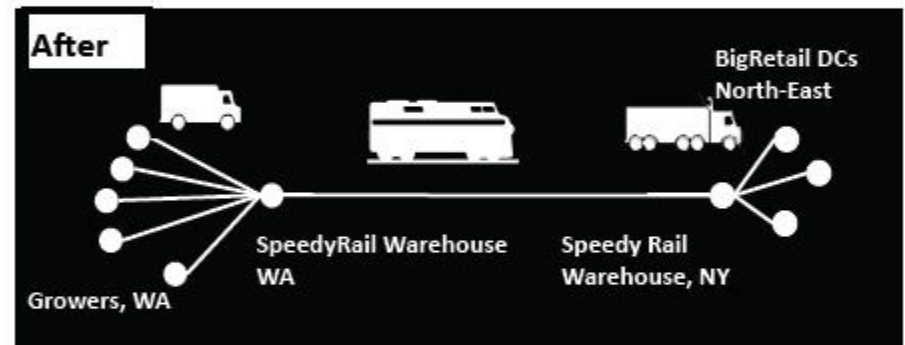
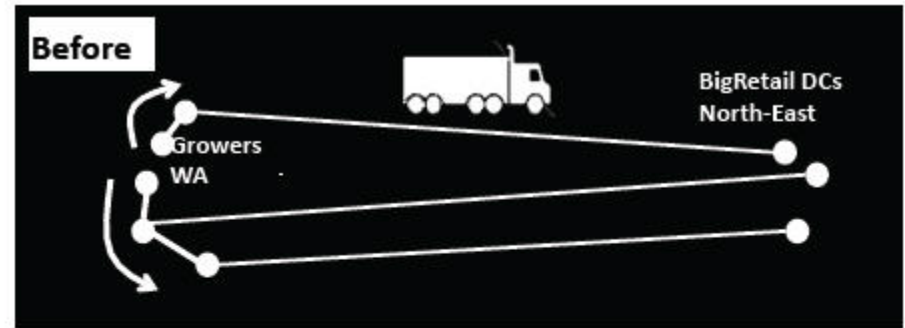
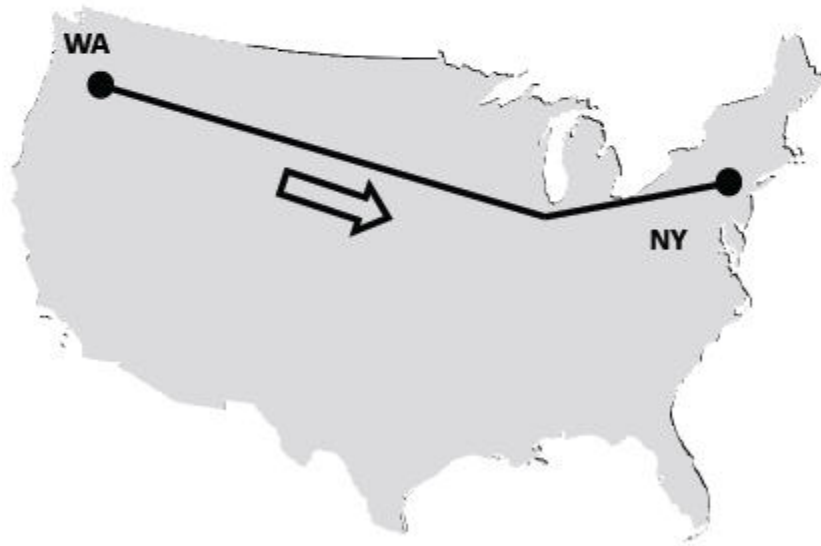
Vehicle efficiencies

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

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