

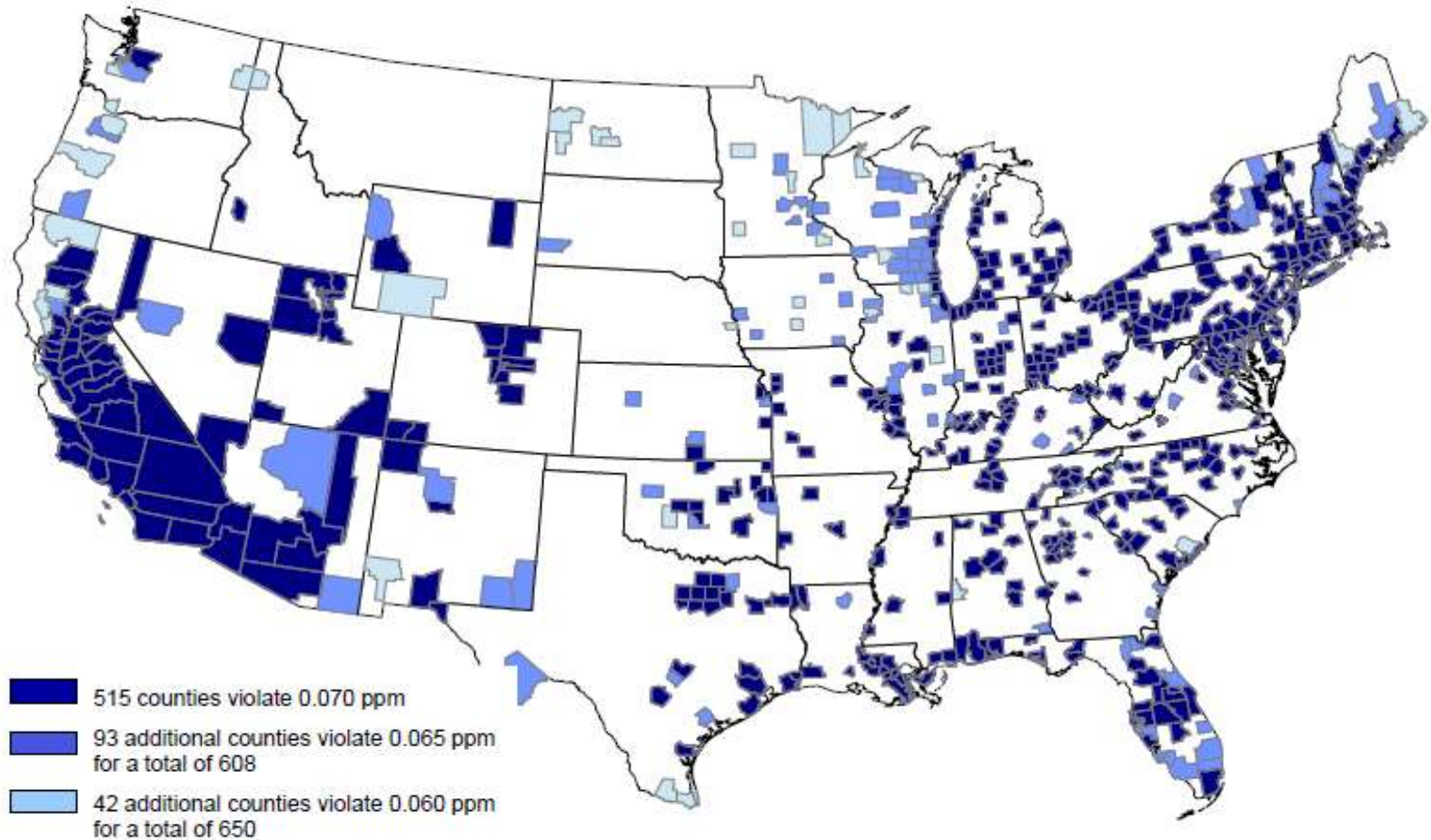


Alternative Fuel Vehicle Program

Counties With Monitors Violating Primary 8-hour Ground-level Ozone Standards 0.060 - 0.070 parts per million

(Based on 2006 - 2008 Air Quality Data)

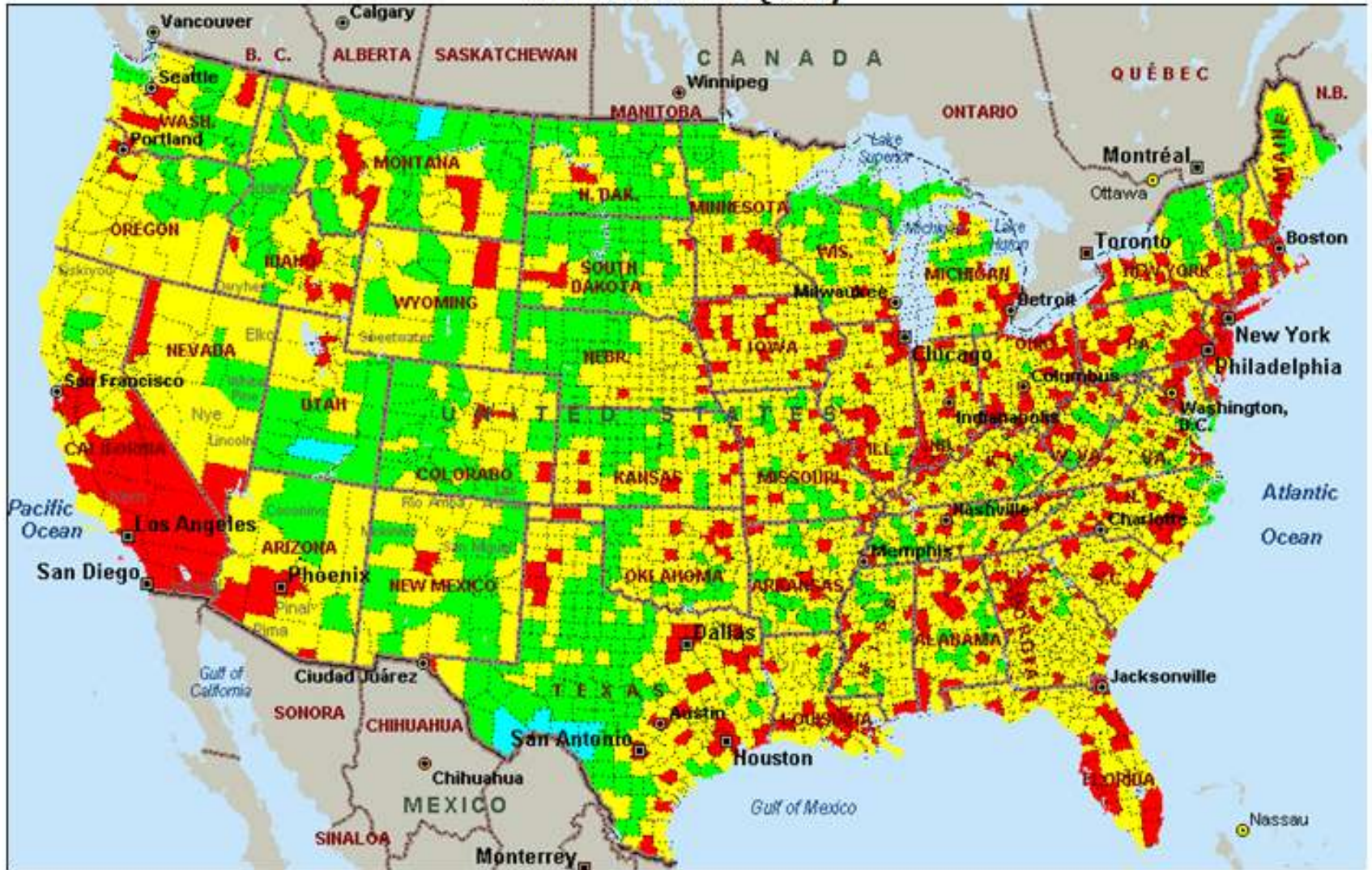
EPA will not designate areas as nonattainment on these data, but likely on 2008 - 2010 data which are expected to show improved air quality.



Notes:

1. No monitored counties outside the continental U.S. violate.
2. EPA is proposing to determine compliance with a revised primary ozone standard by rounding the 3-year average to three decimal places.

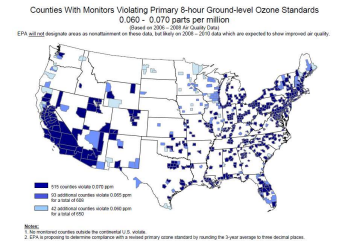
United States Air Quality



■ A
 ■ B
 ■ C
 ■ D
 ■ F
 A = Best/Cleanest in the US; F = Worst/Dirtiest in the US.



WHAT IS OZONE?

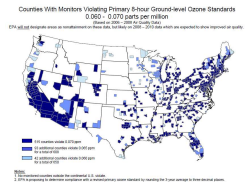


- **Good ozone** is present naturally in the Earth's upper atmosphere--- approximately 6 to 30 miles above the Earth's surface. This natural ozone shields us from the sun's harmful ultraviolet rays.

- **Bad ozone** forms near the ground when pollutants (emitted by sources such as cars, power plants, industrial boilers, refineries, and chemical plants) react chemically in the sunlight. Ozone pollution is more likely to form during warmer months. This is when the weather conditions normally needed to form ground-level ozone---lots of sun---occur.



WHAT ARE THE HEALTH EFFECTS?



- **Irritate the respiratory system.**
- **Reduce lung function**
- **Inflame and damage the cells that line the lungs**
- **Make the lungs more susceptible to infection**
- **Aggravate asthma**
- **Aggravate other chronic lung diseases**
- **Cause permanent lung damage**



Environmentally Responsible Company



- 1st Company to place LNG Tractors into service
- 1st company to convert it's fleet to 100% clean (accomplished in less than 12 months)
- 2009 San Pedro Bay Ports Clean Air Action Plan Air Quality Award
- 2009 Alternative Fuel Vehicle Institute Industry Excellence Award
- Special Recognition Award from the Congress of the United States House of Representatives
- Certified SmartWay Partner (125 Score)
- First Company to take possession of Zero Emission Hydrogen Class 8 Tractor





Clean Diesel

Year:	2007
Make:	Freightliner
Model:	Cascadia
Engine:	405HP Detroit
Transmission:	Allison 3000 HS
Fuel Tanks:	Dual/120 gallons
Front Axle:	12K
Rear Axle:	40K
Wheels:	Aluminum/Steel(Rear)
Tire size:	11R22.5LP
Wheelbase:	170
5th Wheel:	24" Airslide
Frame:	10-5/8 Steel
Approximate Weight:	14,000 Lb.





Truck Emissions Comparison 1992, 1994 & 2009

<u>Model Year</u>	<u>Total Hydrocarbons</u>	<u>Carbon Monoxide</u>	<u>Nitrogen Oxides (NOx)</u>	<u>Particulate Matter</u>
1992	0.30*	2.00*	4.60*	0.25*
1994	0.30*	0.80*	4.50*	0.05*
2009	0.01*	0.40*	1.09*	0.00*

CARB STD Test Cap
2009 0.14* 15.5* 1.45* 0.01*

* *Grams per brake horsepower-hour*

Note: Green highlighted are values of current TTSI Kenworth 2009 Model diesel trucks.



Liquefied Natural Gas – 15 Liters

Year: 2007
Make: Kenworth
Model: T800 Day Cab
Engine: Cummins ISX
400 HP / 1450#
Transmission: FRO16210B
Fuel Tanks: 65gal plus/120gal (LNG)
Front Axle: 12K
Rear Axle: 40K
Ratio: 3:55/3:70(Port)
Suspension: AG380 KW (8-air Bag)
AG400 (Port)
Wheels: Aluminum
Tire size: 22.5LP, (Super Singles
on Lightweight)
Wheelbase: 197
5th Wheel: 24.5" A/S
Frame: 10-5/8 Steel
Approximate Weight: 17,276 Lb. (Incl. Fuel)





Liquefied Natural Gas – 8.9 Liters

Year: 2010
Make: Peterbilt
Model: 384 Day Cab ISL-G
Engine: ISL-G 320HP @
2,000 RPM
Transmission: Allison 3000 HS
Fuel Tanks:
Front Axle: 12K
Rear Axle: 38K
Wheels: Aluminum
Tire size: 22.5LP
Wheelbase: 176
5th Wheel: 24" A/S
Frame: 10-5/8 Steel
Approximate Weight: 13,739 Lbs.





Future: Electric Truck



Type	PM Synch. Motor
Cooling Media	Water-Glycol
Rated Voltage DC	750 V
Rated Power	320 KW @ 1500 rpm
Rated Torque	2900 Nm @ 360 A
Max. Torque	4500 Nm @ 640A
Rated Current	360 A
Max. Speed	3.500 rpm
Weight	500 kg
Dim. (LxWxH)	660 x 510 x 500 mm
Ambient Temperature	- 30 °C to 70 °C
Degree of Protection	IP 65 / 9k



- ❑ 3,300 lbs/torque
- ❑ Class 8 Tractor
- ❑ Power - Hydrogen Fuel Cell
- ❑ ION Lithium Batteries

***Zero Emission Hydrogen Fuel Cell
Electric Class 8 Heavy-Duty-Truck***

**Siemens: Pem-Motor
1DB2024-WS36**



Why Hydrogen?

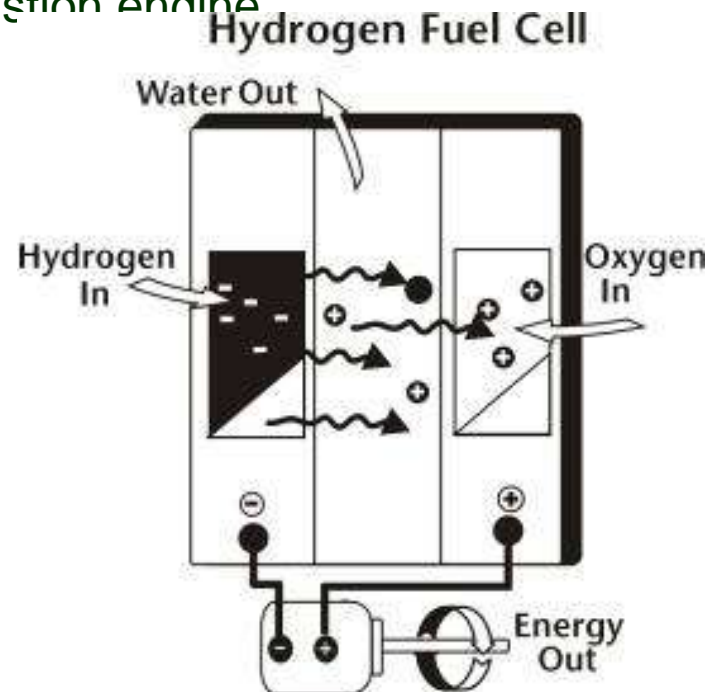
- **Offers several benefits over diesel and natural gas**
 - Cheaper per mile
 - ZERO greenhouse gas emissions
 - No noise pollution
 - No idling
 - Substantial Increase of Torque
 - Domestic and secure energy source
 - Renewable and non-depleting
 - Can be made from a wide variety of resources
- **OEM adoption**
 - All major OEMs will offer H2 powered vehicles 2010-2015
- **State and federal support available**



Hydrogen power products

What is a Hydrogen Fuel Cell?

- An electrochemical engine that converts hydrogen fuel and oxygen into electrical energy
- Twice as efficient as gasoline internal combustion engine
- A battery that runs on hydrogen fuel
- No emissions (exhaust = H_2O)
- Endgame for transportation industry





Hydrogen Solution

Turnkey Fleet Operations

- Plug-in electric, heavy duty class 8, zero emissions trucks with Hydrogen fuel cells for range extension
- Hydrogen supplied at 35% - 40% discount to diesel
- Hydrogen fueling at several locations at truck stops and fueling at fleet yards is also available
- Long term, fixed price hydrogen supply contract



Alternative Vehicle Solutions

Comparisons of Short Haul Trucks (Annual)

(City and Highway combined 50,000 miles per year)

	2007 Diesel	LNG	Hydrogen
Horsepower	450 peak	450 peak	536 peak
Torque (foot/lbs)	1,350 peak	1,350 peak	3,300 available
Fuel	10,000 Gal.	16,700 Gal.	10,000 lbs
Particulates	12.37 lbs	4.6 lbs	0
NMHC	173 lbs	0	0
MHC	0	66.5 lbs	0
NOx	1,485 lbs	570 lbs	0
CO2	217,800 lbs	142,145 lbs	0



Awards – Congressional Recognition



Congress of the United States
House of Representatives

Certificate of Special
Congressional Recognition
Presented To

Total Transportation Services, Inc.

*In recognition of being the recipient of the
Significant Early Action to Reduce Air
Pollutant Emissions Award at the 2nd Annual
The Quality Excellence Awards*



August 4, 2009
Date

Linda T. Sanchez
Linda T. Sanchez, Member of Congress

CALIFORNIA LEGISLATURE

Assembly

CERTIFICATE OF RECOGNITION

TTSI

2011 "International Trade Partner" Award Recipient
120th Annual Long Beach Area Chamber of Commerce Gala

"Yes, our greatness as a nation has depended on individual initiative, on a belief in the free market. But it has also depended on our sense of mutual respect for each other, of mutual responsibility. The idea that everybody has a role to be playing, that we're all in it together and everybody's got a stake of opportunity."

- Barack Obama



Congratulations!

Bonnie Howenthal
Assemblymember, 34th District

Warren J. Justens
Assemblymember, 19th District
June 16, 2011

STATE OF CALIFORNIA

Senate

CERTIFICATE OF RECOGNITION



PRESENTED TO:
TTSI

*In honor of being recognized by the Long Beach Area Chamber of Commerce,
on the occasion of the 120th Inaugural Gala,
as an International Trade Partner
for your commitment to a vibrant local economy
through global trade.*

June 16, 2011
Long Beach, CA

Alan V. Howenthal

ALAN V. HOWENTHAL
MEMBER OF THE SENATE, 21ST DISTRICT
CALIFORNIA STATE LEGISLATURE



Federal Maritime Commission
Washington, D.C. 20573

Office of the Commissioner

August 3, 2011

Victor N. La Rosa
President
Total Transportation Services Inc.
18735 South Ferris Place
Rancho Dominguez, CA 90220

Dear Mr. La Rosa:

As you may know, I have followed developments in the industry in relation to the continued effort to reduce harmful emissions/pollution related to port operations.

I would like to congratulate Total Transportation Services Inc. in continuing to be a strong partner in addressing environmental concerns in the trucking industry; specifically, your commitment to the hydrogen fuel class 8 truck trial project as part of the ports' (POLB/POLA) Technology Advancement Program.

I recall a few years ago you discussed with me the developing technology of hydrogen fuel cell in relation to harbor drayage. The aforementioned, leading the way to application of a zero-emission container truck transportation system. TTSI certainly leads by example.

I am an optimist in regard to the zero-emission goal of the ports/transportation sectors, one which will benefit the quality of life of local communities and serve to further sustainable and efficient models in the good movement industry. Again, I would like to thank TTSI for its recent endeavors pursuing zero-emission technology.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Mario Cordero', written over a horizontal line.

Mario Cordero
Commissioner



**For more information on TTSI, please
visit our website at: www.tts-i.com**

Thank You



Coalition for Responsible Transportation



Coalition for Responsible Transportation

The Coalition for Responsible Transportation's members are committed to responsible stewardship of the environment at our nation's ports and to taking leadership roles within their respective industries in the development of transportation related environmental initiatives.

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WHO WE ARE

CRT is a national coalition of importers, exporters, trucking companies, clean truck manufacturers and ocean carriers formed to facilitate the implementation of practical and sustainable solutions to reduce port truck pollution at our nation's ports in a manner that balances the environmental needs of port communities with efficient flow of commerce.

WHAT WE ACCOMPLISHED

CRT members are investing millions of dollars in clean trucks at ports across the country. An estimated 1,500 model-year 2007 emissions compliant trucks into service at the Ports of Los Angeles and Long Beach, and CRT member companies are responsible for the deployment of the majority of the trucks using alternative fuels that are currently in service at the Ports.

CRT members are committed to driving significant and permanent improvements in air quality at and around our nation's ports. Our mission is to be responsible stewards of the environment by facilitating the implementation of practical and responsible solutions that reduce truck pollution without disrupting the flow of commerce.



Coalition for Responsible Transportation

CRT's Five Goals

- 1. Develop a pro-active compliance attitude regarding the development and administration of environmental emission regulations.**
- 2. Partner with ports across the country in support of clean air programs**
- 3. Demonstrate our commitment to the environment and the communities we serve**
- 4. Facilitate the inclusion of industry perspective in legislative and regulatory activities**
- 5. Continue to build upon the collective strength of the Coalition**



Coalition for **R**esponsible **T**ransportation

THE CRT CLEAN TRUCK MODEL

•SHIPPER

Works with Licensed motor carrier to establish rates for transition to green fleet.

•LICENSED MOTOR CARRIER

Works with independent contractor to help secure financing and/or down payment assistance.

•INDEPENDENT CONTRACTOR

Uses financing to retire high-polluting equipment. Moves for shipper now made with clean truck.



Coalition for **R**esponsible **T**ransportation

**For more information on CRT, please
visit our website at:**

www.responsibletrans.org

Thank You