

# Union Pacific Railroad Community Meeting Diesel Particulate Matter Mitigation Plan for the Mira Loma Auto Facility

## Mira Loma, CA



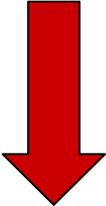
May 7, 2009

# Agenda

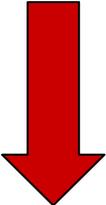
- Emissions Trends Summary
- System and Facility Overview
- 2005 Baseline Inventory
- Current and Proposed Mitigation Measures
  - **We need your help to identify additional ideas for potential emissions reductions**
- Emission Trends – Past and Future
- Evaluation of Mitigation Measures

# Emission Trends – DPM Reductions from 2005 Baseline

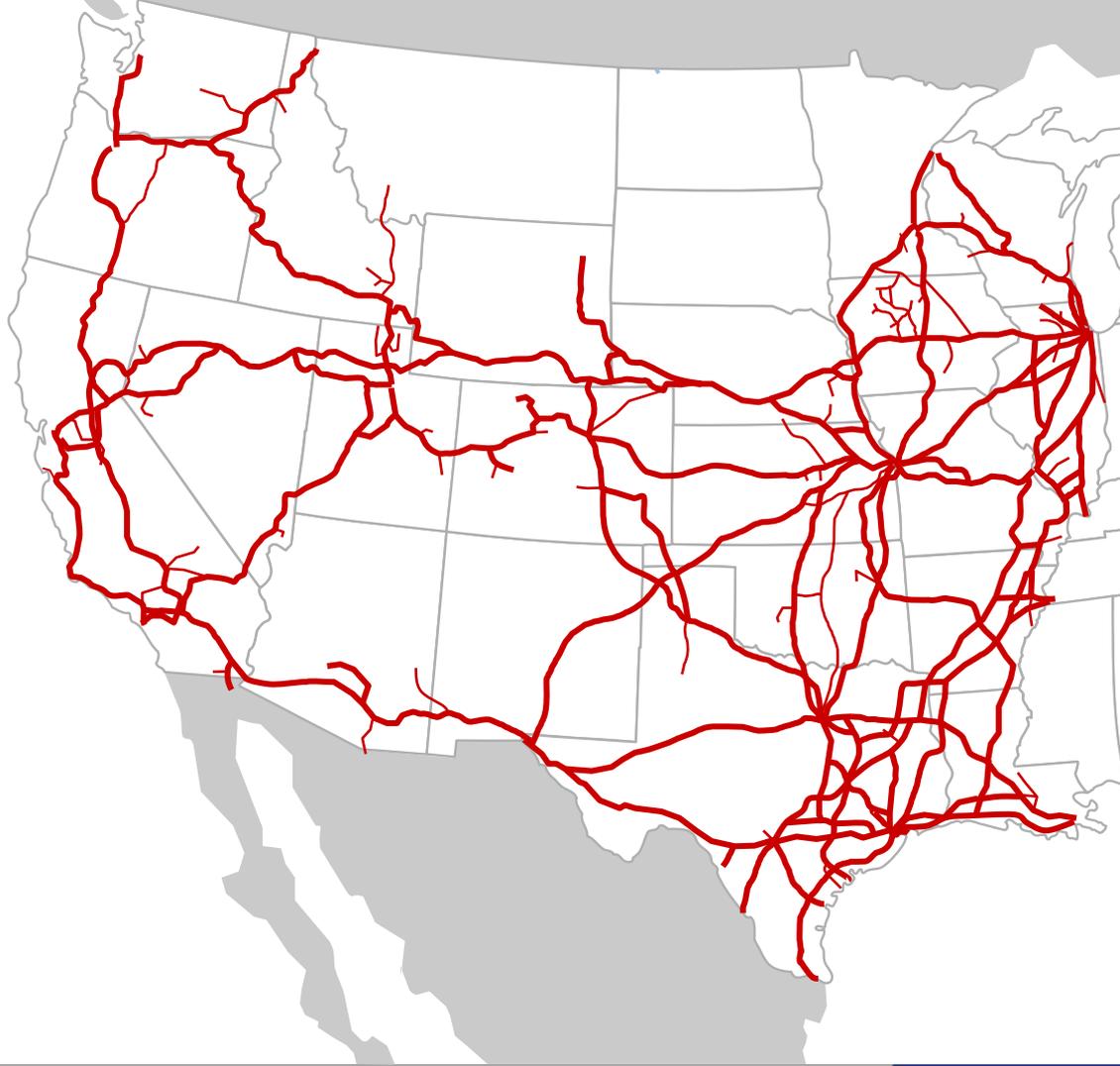
- 2005 to 2007

 **DOWN 47%**

**Projected to 2020**

 **DOWN 67%**

# Union Pacific System Overview



## Fast Facts

### • Miles of Track

- 32,300 in 23 States
- 3,455 in California
- 1,272 in Los Angeles area

### • Employees

- 50,000+ in US
- 5,900 in California

# Facility Overview

- **255 +/- acre auto distribution facility**
- **Yard Includes:**
  - **2 Receiving/Departing Tracks**
  - **12 Tracks used to Unload Vehicles from Rail Cars**
  - **10 Support Tracks to Hold Rail Cars**
  - **Tracks for Rail Car Maintenance**
- **Facility Operates 24 Hours a Day, 365 Days a Year**
- **About 8 Trains a Day Originate or Terminate at the Mira Loma Yard**

# 2005 Baseline Emissions Inventory

Equipment Category	DPM Emissions (tpy)
Locomotives	4.4
- <i>Line Haul</i>	2.0
- <i>Switch</i>	2.4
Diesel-Fueled Trucks	0.2
Forklifts	0.2
<b>TOTAL</b>	<b>4.9</b>

# Responding to Community Concerns

- **Based on comments from the community, UP modified operations at the yard:**
  - The majority of trucks entering and leaving the Yard are now using the Harrel Street gate (off of Etiwanda) instead of the Galena Street gate.
  - In addition, the Galena Street gate is closed to all traffic during drop off and pick up hours at the nearby school.
  - Signage on Galena Street directs delivery truck drivers to turn North.
  - Truck maintenance area has been moved further away from the school.
  - Continued use of ULEL switchers to move auto racks.
  - Conducted an analysis to determine if exclusive use of the Harrel Street gate would have an air quality benefits

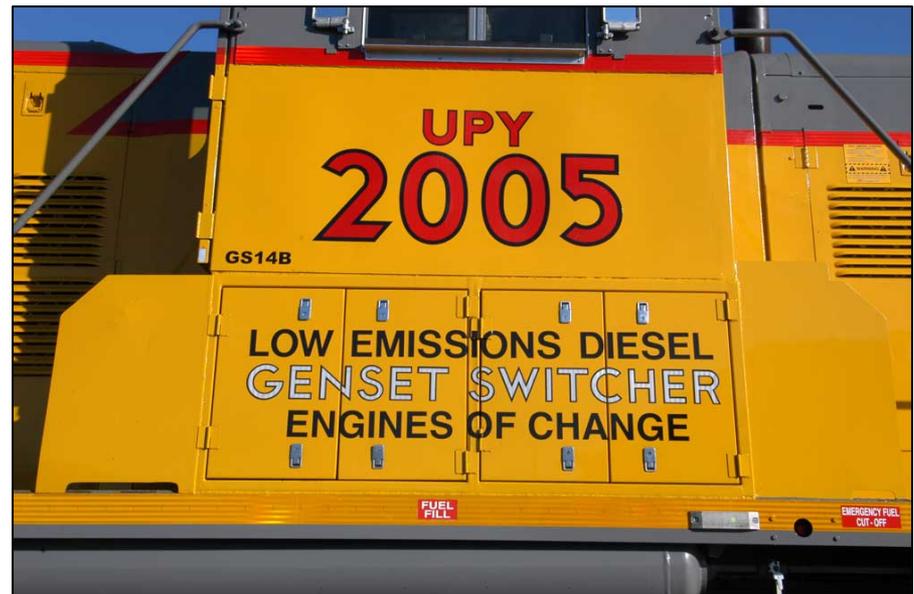
# Current UP Emission Reduction Measures

- **Continued Aggressive Acquisition & Use of Tier 2 Road Locomotives With Advanced Emission Controls**
  - 1,189 Tier 2 Locomotives thru October 2008
  - 5,680+ Tier 0, 1, or 2 Locomotives in the Fleet
- **Continued Remanufacture of Older Locomotives With New, Lower Emitting Components**
  - 2,800 Units Since 2000
- **On Target for Tier 2 Fleet Average in SoCal by 2010**



# Current UP Emission Reduction Measures, Cont.

- **Ultra Low Emitting Locomotives (ULEL's)**
  - Reduce NOx & PM Emissions by +/- 85%
  - Reduce Fuel Consumption by 16 - 37 %
- **Expanded Use of Technologically Advanced Switch Locomotives**
  - Green Goats - 6 in Mira Loma
  - Green Goats - 12 in South Coast
  - Gensets - 61 in South Coast



# Current UP Emission Reduction Measures, Cont.

- **Increased Use of Idle Control Devices (ICD's) for Auto Start-Stop of Locomotives**
  - 100% of CA Intrastate Units Equipped
  - 45% of UPRR Total Fleet
  - All New Locomotives Since 2001 Have Factory ICD's
- **Supported research and development efforts**
  - UPRR has invested > \$37M in locomotive R&D since 1989
- **Aggressive Conservation = Lower Emissions**
  - A 12% improvement in fuel efficiency achieved since 1995

# Current UP Emission Reduction Measures, Cont.

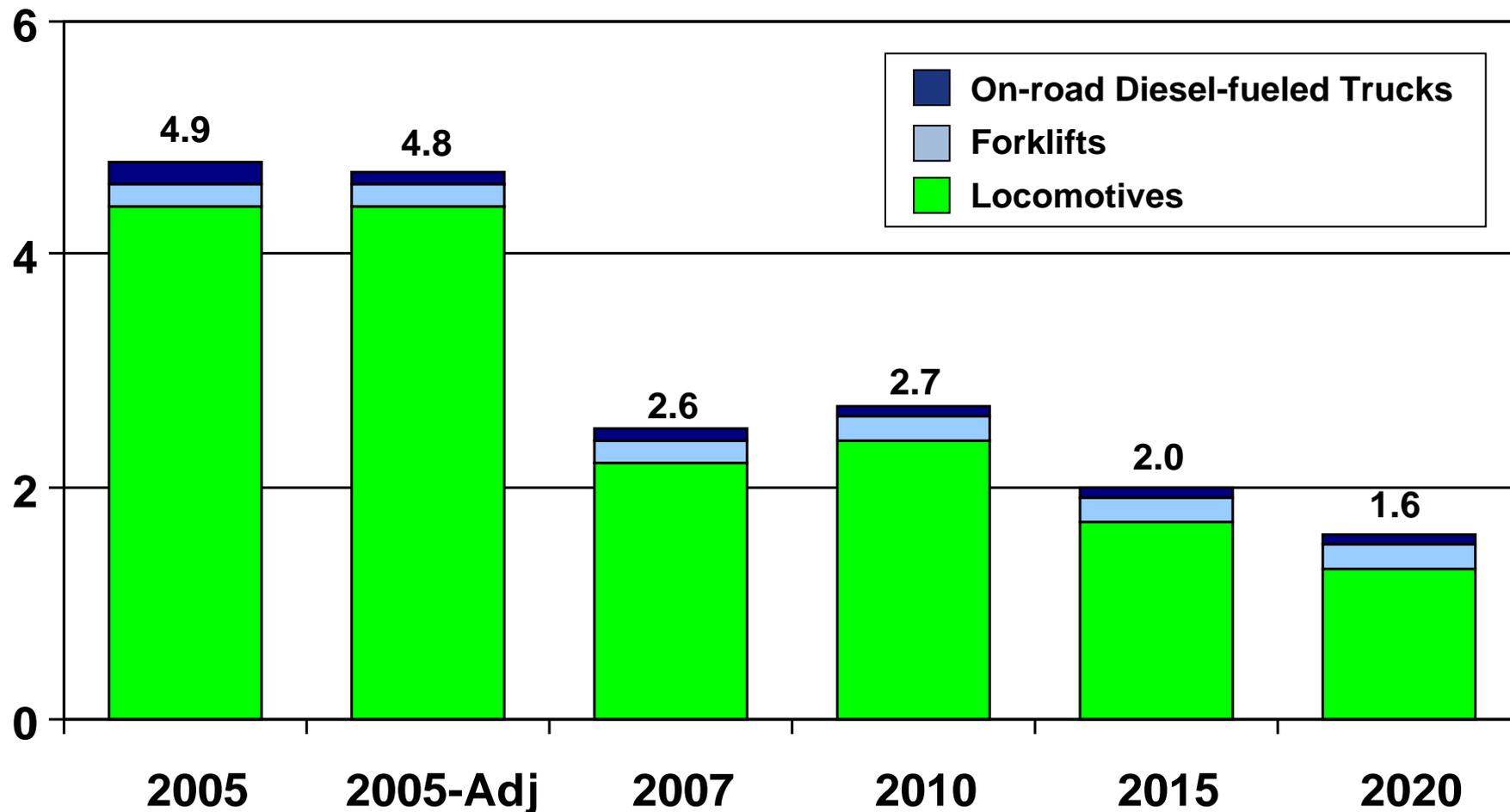
- **Use of cleaner fuels – only Ultra Low Sulfur Diesel (ULSD) is dispensed in CA**
- **Employee Training**
  - **Fuel Conservation Via Use of Simulators**
  - **Locomotive Shutdown Procedures**
  - **Stopping Visible Emissions**

# Proposed Future Emission Reduction Measures

- **Continued acquisition of Tier 2 locomotives and newer technology (i.e. Tier 3 and 4) when available**
- **Continued remanufacture and retrofit of older line haul locomotives with lower emitting components**
- **Continued support of locomotive research and development efforts**
- **Continued Aggressive Employee Training**
  - **Fuel Conservation Via Use of Simulators**
  - **Locomotive Shutdown Procedures**
  - **Stopping Visible Emissions**

# DPM Emissions by Source (Calendar Years 2005-2020)

Emissions (Tons / Year)



# Criteria for Evaluation of Mitigation Measures

- **Safe**
- **Technologically Feasible**
- **Consistent w/ Legal Requirements (i.e. – FRA)**
- **Operationally Feasible**
- **Cost Effective**
- **Other Yard Specific Considerations**

# UPRR is Reducing Emissions

- **Since 1989, UPRR has invested more than \$37M in locomotive research and development and we continue to look for innovations**
- **Result is the most comprehensive & aggressive program of identification, evaluation, development, acquisition, deployment, optimization, & utilization of new & evolving technologies of any RR in No. America**

THE ROAD TO THE FUTURE ISN'T A ROAD AT ALL.



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