HEALTHY KIDS,
HEALTHY PLANET

November 27, 2012
A network of individuals, agencies and organizations throughout the state that are working to maximize and promote opportunities for children to safely walk and bike to and from school.

Brought to you by the Network Steering Committee:
THE EXPERTS

Moderator:
- Sandy Stenmark, Physician Lead of Colorado Pediatric Cardiovascular Health - Kaiser Permanente

Panelists:
- Mia Bemelen, Outreach Coordinator – Denver Regional Council of Governments (DRCOG)
- Natalia Swalnick, Director of Environmental Health - American Lung Association
- Mim Mirsky, Program Coordinator, Engines Off! – City and County of Denver
Objectives

Create a healthy environment which supports walking and biking to/from schools:

- Reduce air pollution
- Promote physical activity to improve children’s health

Learn strategies to improve air quality and health:

- Form school pools: car, walking, bicycle
- Site schools away from highways
- Idle reduction campaigns
- Engage students and parents
Healthy Communities: At the heart of KP’s health mission
Engineer physical activity into daily life and improve air quality.
Physical activity benefits

Improves:

• mood, cognition, fitness, bone strength, sleep quality

Lowers Risk of:

• diabetes, heart disease, obesity, colon & breast cancers

www.health.gov/paguidelines
Physical activity in Colorado

The percentage of Coloradoans meeting the physical activity guidelines by self report:

- 55.7%  Children  2-14 years (2007)
- 29.2%  Adolescents 14-18 years (2011)
- 49 %    Adults (2010)

http://childhealthdata.org/browse/survey
http://www.cdc.gov/HealthyYouth/yrbs/index.htm
CDC State Indicator Report on Physical Activity 2010
Obesity on the rise, walking and bicycling to school falling

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<tbody>
<tr>
<td>U.S. children who bike or walk to school</td>
<td>50%</td>
<td>40%</td>
<td>30%</td>
<td>15%</td>
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<tr>
<td>U.S. children (6-11) who are overweight or obese</td>
<td>8%</td>
<td>20%</td>
<td>30%</td>
<td>30%</td>
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Source: Kaiser Permanente

kp.org/communitybenefit
Air pollution damages the pulmonary system

- Increases airway inflammation
- Decreases lung growth
- Decreases lung function
- Increases preterm birth and low birth weight
- Increases lung cancer
- Is associated with asthma development and asthma exacerbations
- Infants and children are among the most susceptible to the adverse health effects

N Engl J Med 2009;360 1085-95
Salam,J Allergy ClinImmunol 2012;129:232-9
Yang, DNA Methylation Changes and Childhood Asthma in publication
Air pollution damages cardiovascular system

Pollution causes altered gene expression which:

- Increases inflammation
- Injures cells lining blood vessels
- Narrows blood vessels
- Alters blood coagulation

*Am J Respir Crit Care Med Vol 179. pp 572–578, 2009*
Diesel exhaust damages health

- Diesel exhaust is carcinogenic
- Increases allergic and inflammatory responses
- Worsens asthma and allergy symptoms

Nel J Allergy Clin Immunol. 1998;102:539–554*
Asthma in the U.S.

- 10% of children and 7% of adults have asthma in the U.S.
- Air pollution is a known trigger for asthma attacks
- Rates of asthma in poor communities are higher
- The closer children live to a freeway the more likely they are to develop asthma

SOURCE: CDC/NCHS, National Health Interview Survey.
### Schools/students in Denver & Aurora in close proximity to a highway

<table>
<thead>
<tr>
<th>Distance</th>
<th>Schools (%)</th>
<th>Students (%)</th>
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<tbody>
<tr>
<td>&lt;400 m</td>
<td>26.3%</td>
<td>23.1%</td>
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<tr>
<td>&lt;100 m</td>
<td>7.6%</td>
<td>5.2%</td>
</tr>
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</table>

School asthma prevalence in DPS

DPS Elementary Boundaries for 2008-09

- Above 50% African American
- Above 75% Hispanic
- 50-75% Hispanic
- >75% free/reduced lunch
- ≥ 10% asthma prevalence
- ≥ 15% asthma prevalence
Reducing childhood asthma by decreasing traffic congestion

Atlanta - Olympic Games study:

• 22.5% decrease in traffic counts
• 27.9% decrease in peak ozone concentrations
• 41.6% drop in childhood asthma events

Friedman, JAMA.2001;285:897-905
The Good News

- Reducing traffic congestion improves air quality and health
- Walking and bicycling to school increases physical activity
- Time in natural settings are increased with walking and bicycling
- Turning off engines improves air quality
Way to Go: Schoolpool

DENVER REGIONAL COUNCIL OF GOVERNMENTS

We make life better!
Schoolpool

- Safely helps families find others in their neighborhood to carpool, walk, bike or ride the RTD bus together to/from school.

- Free, convenient and secure matching system
Program details

1. Parent Screen Name: Catherine Sanders
   Route Match: 96%
   Mode(s): 
   Grade(s): 1st, 3rd
   Trip Details:
   Every Mo, Tu, We, Th, Fr
   Start: 7:30am-8:30am;
   Return: 2:30pm-3:30pm
   School/Network(s):
   Twin Peaks Charter Academy

   "I'm interested in having my kids walk or bike to school with other kids."

   Send message  More Details

2. Parent Screen Name: kellara
   Route Match: 85%
   Mode(s): 
   Grade(s): 5th
   Trip Details:
   Every Mo, Tu, We, Th, Fr
   Start: 7:30am-8:30am;
   Return: 2:30pm-3:30pm
   Preference: Rides
   School/Network(s):
   Twin Peaks Charter Academy

   "I can walk or drive the kids to school in the morning. I'm looking for afternoon help."

   Send message  More Details

3. Parent Screen Name: JamieCa
   Full Name: Jamie Cantu
Enrollment options

◆ Opt-in: parents register online

◆ Opt-out: school provides a list of families to us (unless families choose not to share info)
Parents from opt-out schools receive a personalized list
Distribution map

ST. THOMAS MORE CATHOLIC SCHOOL 2009
Results 2012

- Worked with more than 70 schools
- Provided Schoolpool lists to more than 13,000 families
- 28% families formed carpools
- Helped form more than 3,500 school-related carpools
New idea!

- Use batchgeo.com to create community network maps from the school’s directory
How to enroll

Available to all public and private elementary, middle and high schools in the Denver metro area.

If you’re outside DRCOG’s area, here are some free tools:

- www.BatchGeo.com
- www.carpoolassist.com
- www.dividetheride.com
- Apps
Happy to help!

◆ If I can help, please let me know.
Mia Bemelen
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mbemelen@drcog.org
www.drcog.org
CLEAN AIR AT SCHOOLS: ENGINES OFF! (CASEO)

Natalia Swalnick
Director of Environmental Health
IDLING IS AN AIR QUALITY CONCERN
CASEO PARTNERS
1st 4 Years of Clean Air at Schools: Engines Off!
RESULTS: Average 58% Reduction in Emissions
KEYS TO CASEO SUCCESS

• Partnerships across several agencies and spirit of cooperation
• Voluntary program conducted with positive messaging
• COMMUNITY CHAMPION
• Community-based social marketing approach
• Statistically significant pre- and post-test data
CONTACT:

Natalia Swalnick
Director of Environmental Health
nswalnick@lungcolorado.org
CASEO: More Than Signs to Reduce Children’s Exposure to Air Pollution at Schools

Mim Mirsky, Program Coordinator
Denver Environmental Health
How big is this problem?

Idling for just **1 minute** produces more carbon monoxide than smoking **3 packs** of cigarettes!

Observed behavior (November 2011)

Average idling duration:
- 7 ¾ - 8 ¾ minutes at 2 DPS schools

Total daily idling:
- Close to 2 ½ hours at 2 DPS schools
Engages community using social marketing strategies to change drivers’ behaviors

**FACT:** Information alone will **not** change habits!
- Signs are only a part of the equation
- Be specific to your drivers
- Tactics should minimize the reasons to idle and maximize the benefits of turning the engine off
- Everyone *forgets* sometimes!
- Takes 9-12 months for habits to become the "norm"
Social Marketing Strategies
1. Measure Conditions
2. Communicate Issue
3. Obtain Commitments
4. Remind Drivers
5. Celebrate Success
Collect observations
• Before
• Accurate Picture at Local Level
• Throughout Campaign
• Track Progress
Communicate Issue

- Letter from Principal
- Announcement at school events
- No Idle Zone signs
  - Give periodic updates
  - Stay motivated
  - Re-strategize if off target

Average Daily Pollution from Idling Vehicles

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<tr>
<th>Month</th>
<th>Total Pollution (grams)</th>
<th>Reduction Achieved</th>
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<tbody>
<tr>
<td>Nov</td>
<td>27.8</td>
<td>82%</td>
</tr>
<tr>
<td>Feb</td>
<td>13.2</td>
<td></td>
</tr>
<tr>
<td>May</td>
<td>5.1</td>
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Reduction Achieved = 82%
Obtain Commitments

- Public, Durable Pledge
  - Holds drivers accountable
  - Envision self doing new behavior

Clean Air for Schools
Engines Off Pledge
Drivers will forget!
Include reminders in campaign

- Close in time & space to action
- Direct Interventions put a face on the issue
- Match drivers’ needs
  - Additional languages
  - Tools to overcome forgetfulness or excuses
Celebrate Success

• Completion of Campaign
• Major Milestones
Social Marketing Strategies

1. Measure Conditions
2. Communicate Issue
3. Obtain Commitments
4. Remind Drivers
5. Celebrate Success
Questions?

Mim Mirsky, Denver Environmental Health Program Coordinator, Engines OFF! Denver
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Online Tools

- Engines OFF! Colorado (CDOT)  www.enginesoff.com
  (targeted driver tools, sample policies and laws, fact sheets, case studies)

- Engines OFF! Denver  www.Facebook.com/EnginesOffDenver

- Community-based Social Marketing  www.cbsm.com
  (FREE book, articles, case studies, forums)

- National Association of County & City Health Officials (NACCHO) Model Practices Database
  http://www.naccho.org/topics/modelpractices/index.cfm
  (online, searchable collection of innovative best practices across public health areas; CASEO added in 2012)
QUESTIONS???