

FACTS ABOUT

Health Benefits of Physical Activity

*Implications for Sustainable Communities***Why are physical activity and exercise important for public health?**

Research shows that regular physical activity improves health in people of all ages and is one of the most important lifestyle choices that we can make. Physical activity:

- Improves heart and lung function and muscular fitness, strengthens bones, and helps individuals maintain a healthy weight.
- Decreases the risk of heart disease, stroke, type 2 diabetes, and colon and breast cancer.
- Improves mental function, sleep quality, and reduces symptoms of depression.

While maintaining a healthy level of physical activity has benefits, it is important to be aware of the potentially harmful effects of exercising in high air pollution areas as well as the numerous steps you can take to minimize your personal exposure (see text box).

How much physical activity is necessary to substantially improve health?

- Children and adolescents require 60 minutes or more per day of physical activity, including muscle and bone strengthening activities at least three days per week.
- Adults require at least 150 minutes of moderate intensity activity or 75 minutes of vigorous intensity activity a week.
- Adults over the age of 65 can follow the same guidelines, with the addition of exercises designed to reduce the chance of falls, and they should consult with their physician to determine their ability to perform physical activity safely.

How could changes in our community environment improve our physical activity levels and health?

Increasing public transit access and safe bicycling routes provides opportunities for residents in these communities to walk and bike for transportation and recreation. Research has also been shown that improved access to green spaces, such as parks and nature trails, increases children's physical activity levels. Some of the benefits include:

- Children who bike to school are more fit and have a lower risk of being overweight (Figure 1).
- Adults living in highly walkable neighborhoods on average walk and bike more and have lower disease risk and improved heart health.
- Adults who commute by walking or biking lower their risk of suffering a stroke, heart attack, being diagnosed with diabetes, and overall mortality (Figure 2).

Ways to minimize air pollution exposure while being physically active outdoors:

1. When walking or biking, select low-traffic roads just a block or so off of major roadways.
2. Walk on sidewalk away from street curbs, closer to buildings.
3. Walk on side of street upwind from traffic.
4. Avoid exercising on summer afternoons when ozone pollution is highest.
5. Shift outdoor activity to a park environment when possible to reduce particle exposure.
6. In planning your route, take advantage of community designs, such as solid or vegetative barriers that separate cyclists and pedestrians from vehicle traffic.



What effect does air pollution have on us when we are physically active outdoors?

Although air pollution is a concern when exercising outdoors, many studies emphasize that the benefits of physical activity outweigh the negative impacts of low to moderate air pollution exposure and encourage people of all ages, even those with chronic medical conditions, to participate in an appropriate amount of daily physical activity.

At the same time, studies in healthy and asthmatic children and adults have found that exposure to air pollution while being physically active can cause breathing difficulties, and increase lung inflammation and asthma symptoms. Considering these effects of air pollution, we all should minimize our air pollution exposure whenever possible. Sensitive populations should be aware of pollution levels when planning outdoor physical activity by reviewing the air quality forecast. Air quality forecasts in your region are found at www.airnow.gov. Additional air quality information can be found at your local [Air Quality Districts](#).

For more information on physical activity recommendations see the links below:

- [Physical Activity Guidelines for Americans](#)
- [Nutrition Education and Obesity Prevention](#)
- [Nutrition and Physical Activity Initiative](#)

For more information on community design and health see the links below:

- [Active Living Research: Promoting Activity-Friendly Communities](#)
- [CDC's Healthy Community Design Initiative](#)
- [American Planning Association's Healthy Community Design Toolkit](#)

For more information

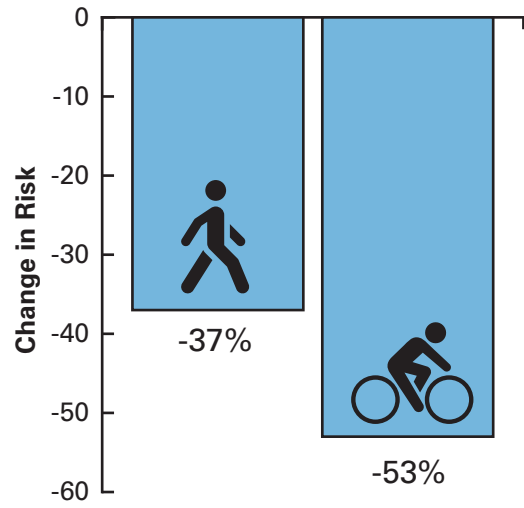
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What research is ARB doing in this area?

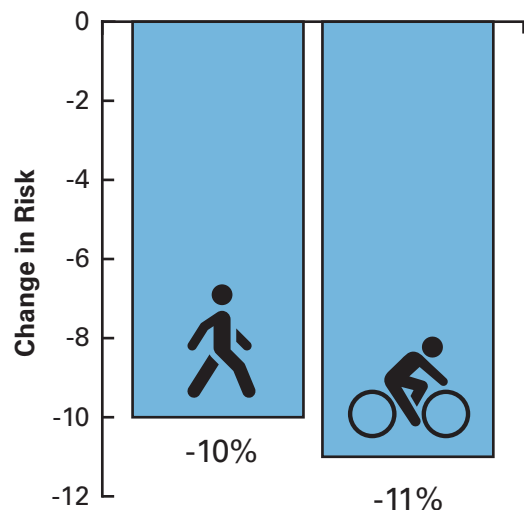
ARB is currently involved in many projects related to the interaction between physical activity, air pollution, community design and health. For a list of completed and current sustainable communities research projects, visit www.arb.ca.gov/research/sustainable/sustainable.htm

Figure 1: Reduced risk of being overweight in children who walk or bike to school



Reference: Ostergaard, et al. Journal of Physical Activity and Health 2012; 9: 5.

Figure 2: Reduced risk of death in adults who walk or bicycle to work



Reference: Kelly, P, et al. International Journal of Behavioral Nutrition and Physical Activity 2014; 11:1