

# Transportation Operations

1-4 points

**TO Credit 1.1-1.4**

## Alternative Transportation: **Commuting**

### Intent

Reduce pollution and land development impacts from conventional single-occupant vehicles used for commuting.

### Health Issues

Motor vehicles represent the largest single source of atmospheric pollution including nitrogen oxides (a precursor of smog); benzene (a carcinogen); other volatile organic compounds (some of which are hazardous and precursors of smog); particulate matter (a trigger of respiratory and cardiovascular illnesses and symptoms), carbon dioxide (a greenhouse gas and contributor to global climate change); and carbon monoxide (contributes to the development of atherosclerosis). By reducing emissions, alternative transportation strategies contribute to healthier air quality, benefiting the health of the building occupants and the surrounding community. Furthermore, the physical exercise involved in the most commonly practiced forms of alternative transportation (public transportation, walking and cycling) promote cardiac, respiratory, and muscular health.

### Credit Goals

- Document the percentage of commuting round trips made by Full Time Equivalent (FTE) and contract peak period staff using transportation means other than single-occupant, conventionally-powered, conventionally-fueled vehicles. For the purposes of this credit, methods of alternative transportation may include, but are not limited to: walking; public transit; bicycles or other human-powered means; carpools; vanpools; low-emission; fuel-efficient or alternative fuel vehicles (e.g., biodiesel, compressed natural gas or liquid propane); compressed work weeks; and, telecommuting.
- Performance calculations are made relative to a baseline case that assumes all regular occupants commute alone in conventional automobiles. The calculations must account for seasonal variations in use of alternative commuting methods and, where possible, indicate the distribution of commute trips using each type of alternative transportation.
- Points are earned for reductions in conventional commuting trips over a minimum one-year period according to the following schedule:
  - TO Credit 1.1 (1 point): Demonstrate that 10% or more of Full Time Equivalent (FTE) and contract peak period staff commute utilizing alternative transportation methods.
  - TO Credit 1.2 (2 points): Demonstrate that 25% or more of Full Time Equivalent (FTE) and contract peak period staff commute utilizing alternative transportation methods.
  - TO Credit 1.3 (3 points): Demonstrate that 50% or more of Full Time Equivalent (FTE) and contract peak period staff commute utilizing alternative transportation methods.
  - TO Credit 1.4 (4 points): Demonstrate that 75% or more of Full Time Equivalent (FTE) and contract peak period staff commute utilizing alternative transportation methods.

## TO Credit 1.1-1.4 continued

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### Alternative Transportation: **Commuting**

- Provide and maintain a building occupant conveyance program (shuttle-link) for buildings more than 1/2 mile from commuter rail or subway and more than 1/4 mile from established bus routes. Connect transit stops within 1/2 mile of the health care facility to main entrances using sidewalks, high-visibility crosswalks, and signage.
- Provide preferred parking for vehicles used for carpools/vanpools and for low-emitting, fuel-efficient vehicles.

*Note: For the purposes of this credit, low-emitting and fuel-efficient vehicles are defined as vehicles that are either classified as Zero Emission Vehicles (ZEV) by the California Air Resources Board or have achieved a minimum green score of 40 on the American Council for an Energy Efficient Economy (ACEEE) annual vehicle rating guide.*

### **Suggested Documentation**

- Maintain quarterly records of alternative commuting transportation participants and document participation levels in accordance with the Credit Goals.
- For buildings located outside the designated distance from rail and bus lines, maintain quarterly records and results of quarterly contracts with shuttle-link service providers to document that service continues to be provided within specified distances from building.
- If the facility is located within the designated distance from rail and bus lines, maintain an updated, publicly accessible map showing the location of public transportation, their distances from the building, and a designated pathway between the transit stop and the health care facility's main entrances.
- Maintain site drawings showing preferred parking for carpool participants and low-emitting, fuel-efficient vehicles, in accordance with Credit Goals.

### **Reference Standards**

American Council for an Energy Efficient Economy (ACEEE), <http://www.aceee.org>.

California Air Resources Board Zero Emission Vehicles (ZEV),  
<http://www.arb.ca.gov/msprog/zevprog/zevprog.htm>

## TO Credit 1.1-1.4 continued

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### Alternative Transportation: **Commuting**

#### Potential Technologies & Strategies

- **Credit Synergies:** *Coordinate implementation of this Credit in coordination with GGHC SSM Credit 2.2: Reduced Site Disturbance: Structured Parking, GGHC SSM Credit 4.1: Heat Island Reduction, GGHC TO Credit 1.5: Alternative Transportation: Allowances, and GGHC EP Credit 8: Low Emitting & Fuel Efficient Fleet Vehicles.*
- Perform a transportation survey of future building occupants to identify transportation needs.
- Consider locating future expansions in areas adequately served by public transportation, as defined in the Credit Goals.
- Establish shuttle service to encourage use of mass transit options by staff, visitors and other building occupants.
- Integrate shuttle service with the existing local transit system.
- Work cooperatively with local transportation providers to relocate or establish new transit stops on or adjacent to the institution's site.
- Retain existing preferred handicapped parking areas. Handicapped parking is inclusive of any patient population designated by the hospital as weak.
- Alternative fuel vehicle fleets such as electric-powered vehicles, biodiesel ambulances and shuttles, etc., can be used to provide inter- or intra-campus transportation, transportation to remote parking and staff housing, ambulance and ambulette fleets, and carpool/vanpool programs. See GGHC EP Credit 8: Low Emitting & Fuel Efficient Fleet Vehicles for more information.
- Biodiesel is becoming available in many markets nationwide, particularly in regions designated as non-attainment areas or where there are high levels of ground level ozone. Low sulfur diesel fuels are required nationally and can be used in all diesel engines without modifications. Biodiesel is usable in most diesel engines as well, although in some older engines may require changing of rubber gaskets and more frequent changing of filters during initial use as it cleans the engine.
- Provide high quality bicycle parking such as inverted-U racks that secure bicycles by their frames, rather than their wheels. Provide lockers and shower facilities for bicyclists.
- Establish a carpool program to assist staff in organizing efficient carpool partners.
- Collaborate with the transit system to build well-lit, acclimatized, secure passenger shelters at bus stops.
- Collaborate with local, state, and federal officials to provide alternative transportation options for home care professionals.

**TO Credit 1.1-1.4** continued

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Alternative Transportation: **Commuting****Resources**

American Council for an Energy Efficient Economy (ACEEE), Green Book, <http://www.greencars.org/>

California Energy Commission, Alternative Fuel Vehicles (AFVs) and High-Efficiency Vehicles, <http://www.energy.ca.gov/afvs/>

U.S. Department of Energy (DOE), State and Federal Incentives and Laws, [http://www.eere.energy.gov/afdc/incentives\\_laws.html](http://www.eere.energy.gov/afdc/incentives_laws.html)

U.S. Department of Energy (DOE), Clean Cities Program, <http://www1.eere.energy.gov/cleancities/>

U.S. Department of Energy (DOE) and U.S. Environmental Protection Agency (EPA), Fuel Economy website, <http://www.fueleconomy.gov/>

U.S. Environmental Protection Agency (EPA), Transportation and Air Quality, <http://www.epa.gov/otaq/>

1 point

**TO Credit 1.5****Alternative Transportation: Allowances****Intent**

Reduce pollution and land development impacts from conventional single-occupant vehicles used for commuting.

**Health Issues**

Motor vehicles represent the largest single source of atmospheric pollution including nitrogen oxides (a precursor of smog); benzene (a carcinogen); particulate matter (a trigger of respiratory illness and symptoms); other volatile organic compounds (some of which are potentially hazardous and a precursors of smog); particulate matter (a trigger of respiratory and cardiovascular illnesses and symptoms), carbon dioxide (a greenhouse gas and contributor to a trigger for global climate change); and carbon monoxide (contributes to the development of atherosclerosis). probable human carcinogen). By reducing emissions, alternative transportation strategies contribute to healthier air quality, benefiting the health of the building occupants and the surrounding community. Furthermore, the physical exercise involved in the most commonly practiced forms of alternative transportation (public transportation, walking and cycling) promote cardiac, respiratory, and muscular health. Studies have found that providing equal commuting subsidies, and thus providing a choice of commuting methods, to all employees significantly reduces the rate of solo driving.

**Credit Goals**

Offer a financial incentive (also known as parking cash-out), other discount program, or non-monetary benefit equivalent to subsidizing on-site parking for all Full Time Equivalent (FTE) and contract peak period staff for alternative modes of travel. For the purposes of this credit, alternative modes of travel may include, but are not limited to: walking; public transit; bicycles or other human-powered means; carpools; vanpools; low-emission; fuel-efficient or alternative fuel vehicles; compressed work weeks; and, telecommuting.

## TO Credit 1.5 continued

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### Alternative Transportation: **Allowances**

#### **Suggested Documentation**

- Maintain quarterly records of the financial incentive program, in accordance with Credit Goals.

#### **Reference Standards**

There is no reference standard for this credit.

#### **Potential Technologies & Strategies**

- **Credit Synergies:** *Coordinate implementation of this credit in coordination with GGHC SSM Credit 2.2: Reduced Site Disturbance: Structured Parking, GGHC SSM Credit 4.1: Heat Island Reduction, GGHC TO Credit 1.1-1.4: Alternative Transportation: Commuting, and GGHC EP Credit 8: Low Emitting & Fuel Efficient Fleet Vehicles.*
- Provide discounts at nearby stores and restaurants for FTE and contract peak period staff who participate in the alternative transportation program.
- Establish and implement an awards program for employees who use environmentally-friendly, healthy means of commuting.
- Consider offering employees pre-tax deductions for alternative transportation expenses, such as bus passes.

#### **Resources**

Delaware Valley Regional Planning Commission TransitChek, <http://www.gettransitchek.org>

U.S. Department of Transportation, "Mitigating Traffic Congestion – The Role of Demand-Side Strategies," [http://ops.fhwa.dot.gov/publications/mitig\\_traf\\_cong/](http://ops.fhwa.dot.gov/publications/mitig_traf_cong/)

U.S. Environmental Protection Agency (EPA), Parking Cash Out: Implementing Commuter Benefits as One of the Nation's Best Workplaces for Commuters," [http://www.lgc.org/freepub/PDF/Land\\_Use/presentations/parking2007/parkingcash.pdf](http://www.lgc.org/freepub/PDF/Land_Use/presentations/parking2007/parkingcash.pdf)