

#5: CAR, TRANSIT, & BIKE OPTIONS

OPTIONAL METRIC FOR CATEGORY A & B & C CITIES

Bold, green font indicates data elements that are eligible to be recognized at Step 5 if improvement is demonstrated.

DATA ELEMENTS

- **Non-Gasoline or Diesel Fueling Stations**
 - 5.1 **Number of electric vehicle charging stations**
 - 5.2 Number of alternative fueling stations (e.g. e85, CNG)
- **Mobility Options**
 - 5.3 Does your city have a bike-sharing service? (Yes or No)
 - 5.4 Does your city enable car or ride-sharing services? (Yes or No)
 - 5.5 Number of telecommuting businesses/services
 - 5.6 Is the city served by weekday transit? (Yes or No)
 - 5.7 Does the city have structured transit routes? (Yes or No)
 - 5.8 Percent of housing units within ¾ miles of transit routes

DEFINITIONS

- **Number of electric vehicle charging stations** includes those gas stations and other sites that have one or more cords/fixtures for electric vehicle charging. [\(Element 5.1\)](#)
- **Number of alternative fueling stations (e85, CNG)** includes both the number of businesses with stations open to the **public** and the number of sites with EV charging and pumps for **private** use (such as city fleets, private fleets). [\(Element 5.2\)](#)
- **e85/other alternative fueling stations** include sites that dispense ethanol above the 10% state standard (such as E-85), biodiesel pumps selling biofuels above the 10% state standard, and compressed natural gas (CNG) and hydrogen pumps. [\(Element 5.2\)](#)
- **Bike sharing services** include bike-shares such as NiceRide or campus-based “yellow bike” programs. [\(Element 5.3\)](#)
- **Car or Ride-sharing services** include services such as HourCar, the availability of ride-sharing services such as taxi companies and Uber and Lyft van-pool services, organized ride-sharing services organized by a transit agency or by a campus or other entity (“ride boards”), but does not include dial-a-ride transit. [\(Element 5.4\)](#)
- **Telecommuting services** include telework and telemedicine sites/businesses open to the public, and the presence of a service such as eWorkPlace.com in your city. [\(Element 5.5\)](#)
- **Weekday transit** means transit available at least 9 hours a day, 5 days a week. [\(Element 5.6\)](#)
- **Transit** includes fixed-route transit service, deviated fixed-route service (where there is an established route but buses may stray roughly one mile from the fixed route), and dial-a-ride service (that may be run by organized volunteers, and where one may need to arrange a ride 24 hours in advance). [\(Element 5.6\)](#)
- **Structured routes** for GreenStep purposes means that the city is served by transit that has structured routes with established times and stops. This includes fixed-route and deviated fixed-route service. [\(Element 5.7\)](#)

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- **Housing** means residential dwelling units: count those that are within $\frac{3}{4}$ mile of a transit stop (bus, streetcar, LRT, commuter rail) and, for deviated fixed-route service, count dwelling units within one mile of the entire bus route. Dial-a-ride service is not included in this percent of housing measure. (Element 5.8)
- **Alternative data elements:** If you have been gathering different data or want to gather different data, report those and explain how they are a better fit for your city.

DATA SOURCES

- Lists by city of publicly available fueling stations are at <http://www.afdc.energy.gov/fuels/> and for the most up-to-date EV information, see <http://www.plugshare.com/> (Elements 5.1 and 5.2)
- City licenses, records, and common knowledge of city staff will be needed for counting the private fueling stations and the sharing services. (Elements 5.2-5.5)
- GIS maps, data from transit service web sites, city plat maps, and census tract data. (Element 5.8)

CALCULATION AND PUBLIC REPORTING

- **Annual measurement and reporting** for each of these data elements is based upon the cumulative numbers as of December 31st before the reporting year.
- **Fueling stations and sharing services will be normalized** and reported on the GreenStep web site as number of stations, and number of services, per 1000 residents.
- **Using a GIS system**, map a boundary (zones if multiple transit routes) within which street walking (or, as the crow flies) is within $\frac{3}{4}$ miles of all stops and 1 mile of deviated fixed-routes. Then calculate the number of residential dwelling units within the boundary/ies or zones. Finally, compare the number of units to total units in the city and express the ratio as a percent. A more detailed description of this GIS approach and links to data are at: <https://www.sustainablecommunities.gov/percentage-population-served-transit> (Element 5.8)
- **For smaller cities**, dwelling units in census tracts close to transit routes can provide rough estimations, or estimation from a city plat map may work fine. (Element 5.8)

RATIONALE

GreenStep cities across Minnesota report the development and use of transportation options beyond single occupancy vehicle (SOV) fossil-fueled trips for every transportation need. This metric tries to track the growth of options in a city. It covers fueling options for vehicles with a lower greenhouse gas footprint, in addition to those lower-fossil-fuel, non-SOV options.

Studies show Minnesotans are willing, on average, to walk up to $\frac{3}{4}$ mile to access a transit stop with at least hourly transit service, and so GreenStep picked this threshold. Studies also show, however, that economic viability of regularly scheduled transit requires housing densities, for portions of cities, above what we tend to see in many Minnesota cities. For example, as a very rough rule of thumb, at least 15 dwelling units per acre are needed to support one rush hour bus every 15 minutes. And very high levels of walking are facilitated in neighborhoods or mixed-use areas with about 20 housing units per acre.

The question for cities over a generation or two is: do we introduce transit first (and have to initially more heavily subsidize it) and then build denser, more mixed-use nodes, or do we build (zone) first (and increase congestion) and then introduce transit? Cities must fine-tune an evolution to fit their community culture, accepting the co-existence of several density zones within the city and region.

STEP 5 GOALS

Minnesota GreenStep Cities
Performance Metrics for Recognition at Steps 4 and 5

There are no state-wide goals for this metric nor any guidance useful at this point in time for all cities in Minnesota. Therefore, individual cities are best equipped to set realistic goals for improvement, and any improvement in this metric – higher numbers, higher percentages – has multiple clear, quantifiable benefits.

[NEED HELP? CONTACT](#)

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