

#5: CAR, TRANSIT, & BIKE OPTIONS

OPTIONAL METRIC FOR CATEGORY A & B & C CITIES

Bold, green font indicates metrics that must improve to be recognized at Step 5

METRICS

- **Vehicle Fueling Stations**

- 5.1 **Number of public electric vehicle charging stations**

- 5.2 Number of public alternative fueling stations (e.g. e85, CNG)

- **Shared Services**

- 5.3 Does your city have a bike-sharing service? (Yes or No)

- 5.4 Do any car or ride-sharing services operate in your city? (Yes or No)

- 5.5 Number of telecommuting businesses/services (telemedicine, co-working spaces) open to the public

- 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 $\frac{3}{4}$ miles of transit routes

METRIC DEFINITION

- **Number of public electric vehicle charging stations** includes those gas stations and other public sites that have one or more cords/fixtures for electric vehicle charging. [\(Metric 5.1\)](#)
- **Number of public alternative fueling stations (e85, CNG)** includes the number of businesses with stations open to the public selling one or more of biodiesel above B20, CNG, E85, hydrogen, LNG, propane. [\(Metric 5.2\)](#)
- **Bike sharing services** include bike-shares such as NiceRide or campus-based “yellow bike” programs. [\(Metric 5.3\)](#)
- **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, and organized ride-sharing services organized by a transit agency or by a campus or other entity (e.g., “ride boards”). Do not include dial-a-ride transit. [\(Metric 5.4\)](#)
- **Telecommuting services** include telework and telemedicine sites/businesses open to the public, and the active use of a service such as eWorkPlace.com in your city. [\(Metric 5.5\)](#)
- **Weekday transit** means transit available at least 9 hours a day, 5 days a week. [\(Metric 5.6\)](#)
- **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). [\(Metric 5.6\)](#)
- **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. [\(Metric 5.7\)](#)
- **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. [\(Metric 5.8\)](#)
- **Alternative metrics:** If you have been gathering different metrics or want to gather different metrics, report those and explain how they are a better fit for your city.

DATA SOURCES

- For the most up-to-date list of public EV charging stations, see <http://www.plugshare.com/> (Metric 5.1)
- Lists by city of publicly available alternative fueling stations are at <https://afdc.energy.gov/stations/#/find/nearest> (Metric 5.2)
- City licenses, records, and common knowledge of city staff will be needed for counting the sharing services. (Metrics 5.3-5.5)
- City, county or regional transit agency web sites. (Metrics 5.6 and 5.7)
- GIS maps, data from transit service web sites, city plat maps, and census tract data. (Metric 5.8)

METRIC CALCULATION AND PUBLIC REPORTING

- **Annual measurement and reporting** for each of these metrics 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 map, or a GIS system**, draw 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. (Metric 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. (Metric 5.8)

METRIC RATIONALE

GreenStep cities across Minnesota are reporting the development and use of transportation options beyond single occupancy vehicles (SOVs) fueled by gasoline and diesel. This metric tries to track the growth of options in a city. It covers fuels 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 distance 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 METRICS

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

NEED HELP? CONTACT

Amber Dallman, GreenStep best practice advisor for [mobility options](#), Minnesota Department of Transportation:
amber.dallman@state.mn.us or 651-366-4189

November 2019