

Hub and Spoke Recycling

**Regional cooperation
reduces costs, increases
efficiency**



**NEBRASKA
RECYCLING
COUNCIL**

Hub and spoke systems provide the most efficient means of gathering and processing recyclables from both a capital and operational perspective.

With small populations and low population densities, rural communities in Nebraska and across the U.S. struggle to provide cost effective recycling services because of the low volume of recyclable materials produced. Simply put, the more recyclable materials collected, the better the economics work because the costs per ton are reduced. A hub and spoke system is a proven solution to help rural communities work together on a regional level to consolidate larger volumes of recyclable materials. This creates a more durable, economical, and efficient system for managing recyclables.

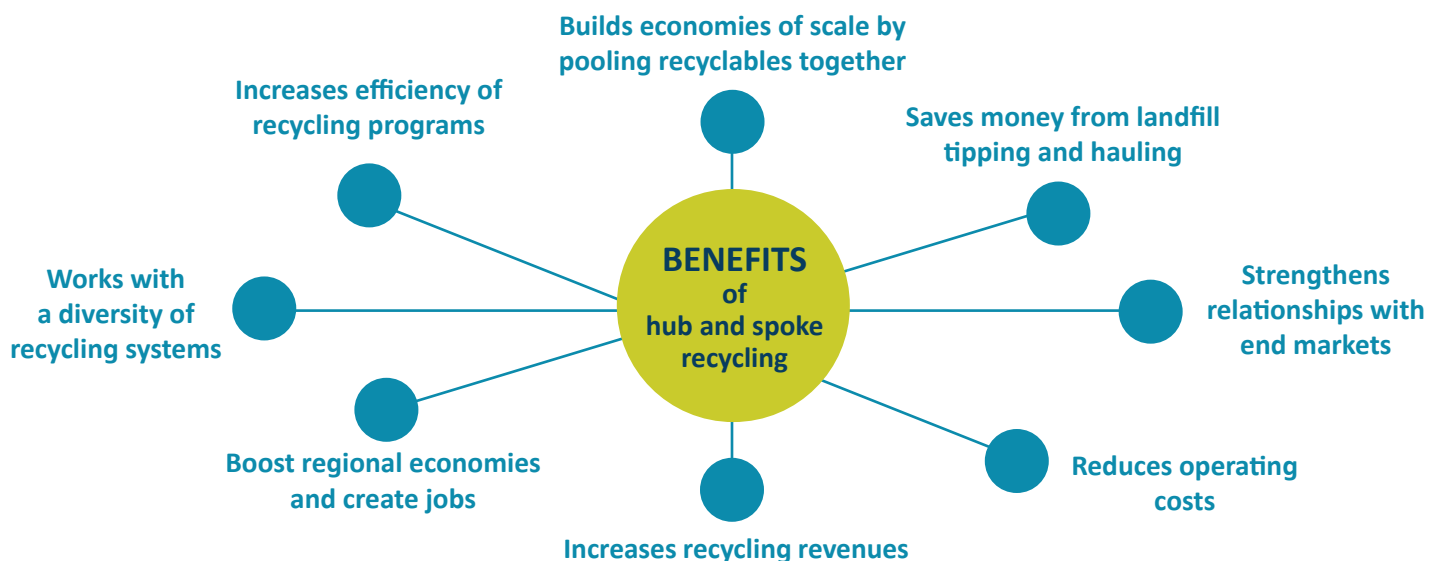
HOW HUB AND SPOKE RECYCLING WORKS

The hub and spoke model works by creating regional recycling processing centers that serve as the “hub,” where material is sorted, baled, and sold to markets. Smaller, nearby communities with collection points are the “spokes” that deliver their recyclables to the hub for processing. Spokes reduce their transportation and operating costs by working with a hub, and the hub benefits by consolidating marketable volumes for higher revenues and better economies of scale. A regional partnership and formal agreement is recommended to ensure the continued success of the program.

Hub and spoke recycling can work with a diversity of communities and recycling systems. It is compatible with:

- Recycling drop-off centers or trailers
- Public or private recycling operations
- Curbside recycling, either single-stream or dual-stream
- Towns in different counties or even across state lines
- Any type of recyclable material, including cardboard, plastic bottles and aluminum cans, as well as electronics, plastic film or pallets

By consolidating recyclables to increase volumes, rural communities can capitalize on economies of scale and provide more efficient recycling programs.



Hub and Spoke Models

Nebraska

The Laurel Regional Recycling Center uses the hub and spoke model to increase hauling efficiencies and consolidate marketable quantities of material from spokes and “mini-hub” areas in Northeast Nebraska. The materials are collected source-separated, which reduces labor and processing costs so materials can be sold directly to end markets.

The Custer County Recycling Center in Broken Bow is a recycling hub for 16 communities throughout a seven-county area in central Nebraska. Materials are collected source-separated from recycling drop-off sites, then delivered to the Recycling Center for processing. Revenue from the baled materials reduces the cost to operate the facility and to deliver materials to markets. Other examples of hub and spoke systems in Nebraska are the Western Resources Group (WRG) in Ogallala and MNIS in Oxford.

New Mexico

New Mexico developed the first state-wide comprehensive strategy to improve rural recycling through hub and spoke systems. In just six years, the state added over 40 new recycling collection sites and 17 processing hubs, created 40 jobs, and increased their recycling rate by 33%. Much of their work can be directly applied to local Nebraska projects, including facility blueprints, equipment recommendations and sample project budgets.

STEPS FOR CREATING A HUB & SPOKE SYSTEM

Map existing recycling collection and processing locations.

Determine end markets and specs for handling materials


Formalize regional partnerships with MOUs



HUB AND SPOKE FEEDS REGIONAL RECYCLING MARKETS

There are many domestic recycling markets in and around Nebraska that turn our recyclables into new products. Domestic markets are considered less volatile than overseas markets and help build local economies and create local jobs. Examples of regional markets for recyclables include:

- Plastics #1 and #2 are re-manufactured into products with end markets in Nebraska and Minnesota
- Ripple Glass in Kansas City processes recovered glass for local fiberglass insulation and beer bottle manufacturers
- Sadoff Iron & Metal and Alter Metal recycle scrap metals such as tin and aluminum in several locations
- Greenfiber in Norfolk, NE, manufactures insulation products from cardboard and paper fibers
- TAMKO Building Products in Kansas incorporates mixed paper in the production of shingles



The Nebraska Recycling Council is here to help assess the feasibility of hub and spoke recycling in your community and create an action plan for moving forward. Learn more at www.nrcne.org or call (402) 436-2384.

Funded by



References

www.nrcne.org/events/hub-spoke-recycling-maximizing-regional-and-rural-programs-with-sarah-pierpont