

# Hub and Spoke Recycling



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THE RURAL RECYCLING DEVELOPMENT PROJECT

# Rural Barriers

- Limited Volumes
- Dispersed Population
- No available capital for investment in diversion
- Historic dependence on disposal



# Rural Incentives

- Third party distant landfills
- Waste stream control
- Established drop-off systems for waste
- Limited diversion history
- Current availability of significant capital resources



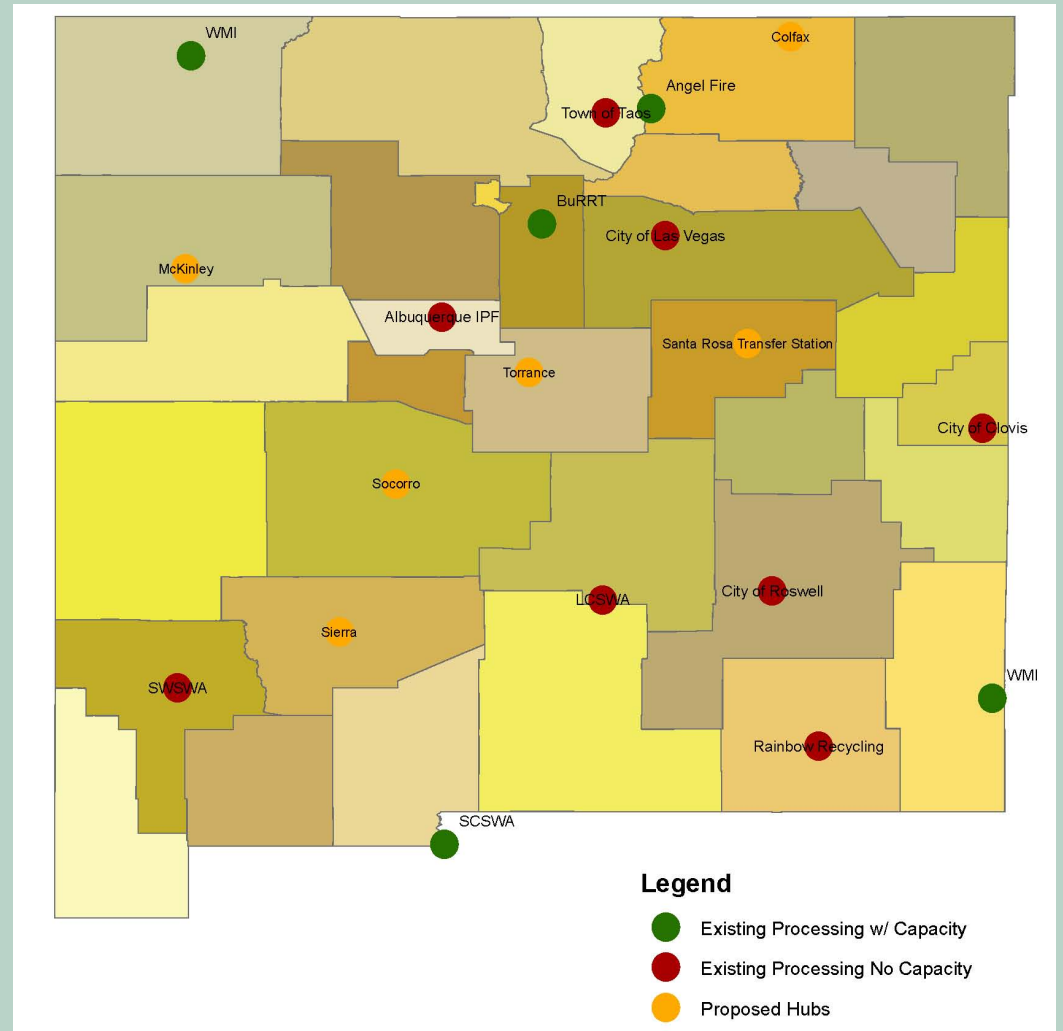
# A Model for Success



- Achieves economy of scale
- Limits capital demands
- Focuses on efficiency
- Maximizes material value
- Provides regionally consistent program



# Intentional Development



# Hub?

- Turnkey collection and processing facility
- Source Separated Materials Processing
  - Loose Material Storage & Receiving
    - Public users
    - Spoke communities
  - Baling
    - Bale Storage
    - Truck Loading



# Design Features

- Integrated drop-off area and processing system
- Collection/material storage matches bale volume demands (30 yd<sup>3</sup> for storage when one bale = 30 yd<sup>3</sup>)
- 3,000 square foot 3 sided building
- Push walls to protect building and control loose materials
  - Sky lights to minimize lighting demands
  - Two 10' wide x 12' tall rollup door
  - Integrated loading ramp
  - Interior bale storage





# Conceptual Hub Layout

# Hub Equipment

- Horizontal Baler
- Conveying System
- Skid loader and/or Forklift
  - ? Glass crusher
  - ? Waste oil heat
  - ? Wood chipper
  - ? HHW storage



# Equipment Details

- Horizontal Baler
  - Multi materials
  - Manual tie
  - Auto Cycle
- Conveying System



- Pit conveyor below grade
- Controlled by baler



# Spoke

- Rural collection of source separated materials
- Match recycling and waste collections
- Recycling is not “new” material to be hauled



# Spoke Operations

- Base Line Materials

- ONP#7 (mixed paper cans)
- Plastic Bottles (#1 & #2)
- OCC (cardboard)
- UBC (aluminum cans)
- Tin Cans

- 2<sup>nd</sup> Tier Materials

- Carpet padding
- Lead acid batteries
- Other paper grades
- Glass
- Phone Books
- Green waste
- E Scrap
- Scrap metal
- Tires





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# Hub & Spoke Outreach

- Hub should establish outreach program
- Spokes follow the Hub's program
  - Signage
  - “Language”
  - Brand
  - Accepted materials
  - Themes
- A coordinated approach ensures users a consistent set of rules across several collection points.



# Operating Finances

- Operation is scalable to volume
- Reliance on existing staff is crucial
- New overhead costs include; electricity, diesel/propane, salaries & benefits, maintenance and baling wire



# Operating Income

- Based on marketed volumes
- Commodity prices are volatile so conservative estimates are essential
- Cost avoidance must be considered
- Tipping fee may be relevant for some commodities



# Additional Benefits

- Social
- Environmental
- Energy
- Sustainable Jobs



# Three Hubs Awarded

- City of Deming
  - Transfer Station
- Torrance County
  - Estancia Valley Regional Landfill
- Otero County
  - La Luz Convenience Center



# Next Steps

- Threatened and Endangered Species
- Archaeological Resources
- Contract execution by January 1<sup>st</sup>
- Construction through Spring
- Fully operational by June 1, 2011



# Additional Programs

- Spoke Grants
  - \$600,000 +/- for spoke resources (collections, signage etc.)
- R<sup>3</sup> Materials Marketing Coop
  - Non-profit marketing service
  - Goal of achieving market value pricing for small volume producers

