

# Yardwaste Study



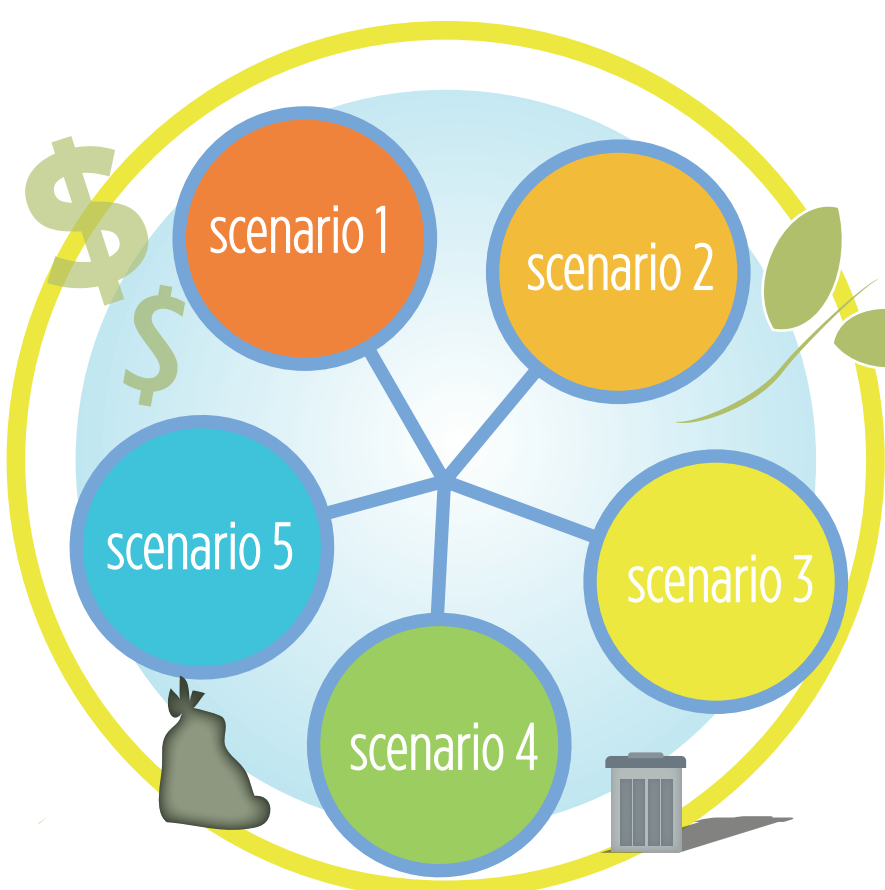
## Visited Sites

- Site visits to the City's Oma-Gro Compost Facility, WMI-operated Pheasant Point Landfill, Omaha Public Power District-owned and WMI-operated Elk City Station, and private compost operations.



## Observed Collections

- Observed WMI collection operations in various locations throughout the City which included a mix of collection conditions (i.e. curbside, alley way, on-street parking, heavy vegetative canopy, etc.).



## Identified Alternatives

- SCS evaluated the economic and environmental benefits and drawbacks of 5 different collection and handling scenarios.



## Developed Pro Forma Model

- Developed a pro forma model (financial model) for the above identified 5 scenarios.



## Performed Environmental Modeling

- Performed landfill gas recovery modeling and projections, and prepared greenhouse gas emissions estimates for Scenarios #1 and #2.



## Performed Peer Community Benchmarking

- Conducted a benchmark survey of local and regional cities concerning their residential curbside waste collection services of household garbage, recyclables, bulky waste, and yard waste.



## Performed Public Opinion Survey

- Developed a comprehensive public opinion survey for purposes of gauging the attitudes and opinions of residents across the City as a whole.



**12 Passes**  
per house  
per month:

- Traffic
- Emissions
- Street Wear & Tear
- Safety



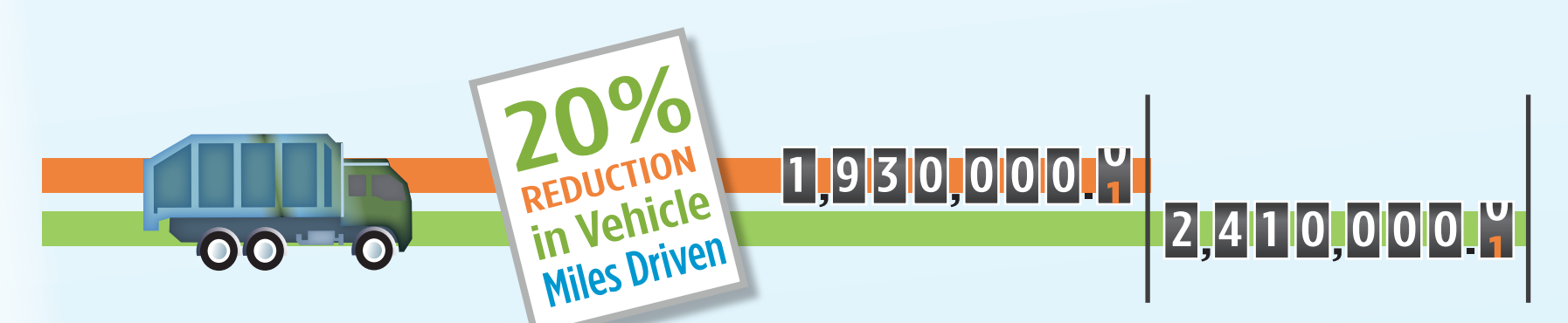
## Challenges:

- Number of Trucks
- Certified Drivers - Shortage
- Cost of Collection
- Cost of Transporting
- Cost of Processing



**8 Passes**  
per house  
per month:

- Less Traffic
- Less Emissions
- Less Street Wear & Tear
- Safer





The **key economic** and **environmental** findings of the Study are summarized below

Scenario #1

(Baseline Scenario)

100% Separate Collections for Garbage, Yardwaste, & Recycling

Total Estimated Cost for Scenario #1 is \$30,280,000 Annually or \$216 Per Household Per Year

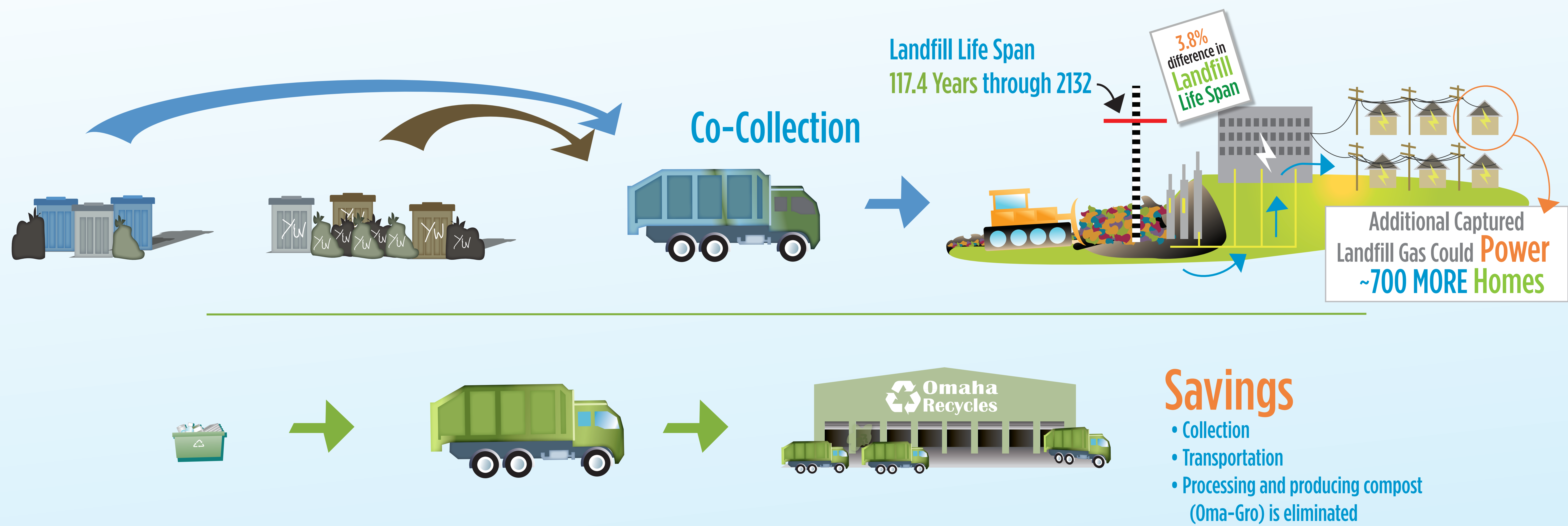


The separate collection costs for yardwaste is a significant expense to the City and, while this practice allows for diverting yardwaste from the landfill and beneficial use of this organic waste stream, the revenues achieved through the Oma-Gro sales do not cover the costs of processing, and marketing of the finished compost.

Scenario #2

100% Co-Collection for Garbage & Yardwaste, Separate Collection for Recycling

Total Estimated Cost for Scenario #2 is \$8,350,000 Less Annually or \$59.70 Less Per Household Per Year Than Scenario #1



Green House Gas emissions were estimated for scenarios #1 and #2, and included emissions from collection, compost processing, and landfilling. GHG reductions from the use of compost are offset by increased emissions from the extra vehicle mileage incurred for the separate collection of yardwaste. Also, about half of the increased landfill methane emissions (from landfilling yardwaste instead of diverting it to compost) are offset by increased electricity production from higher methane recovery rates at the landfill. Based upon analytical assumptions about carbon storage of landfilled yardwaste, net emissions from diverting yardwaste to composting are higher than placing it in the landfill. Additional emissions from separate collection and composting is equivalent to the annual tailpipe emissions of ~ 3,560 passenger vehicles.

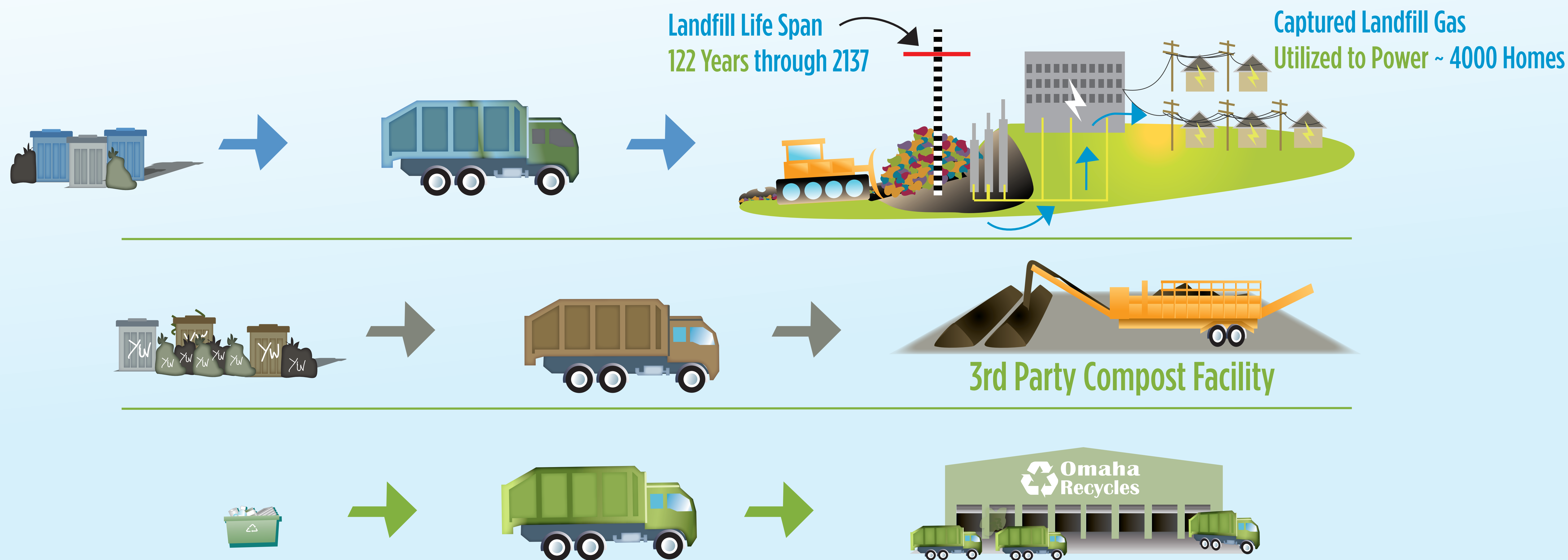




Scenario #3  
(Similar to Scenario #1)

100% Separate Collection for Garbage, Yardwaste, & Recycling  
Yardwaste Transported to 3rd Party Compost Facility

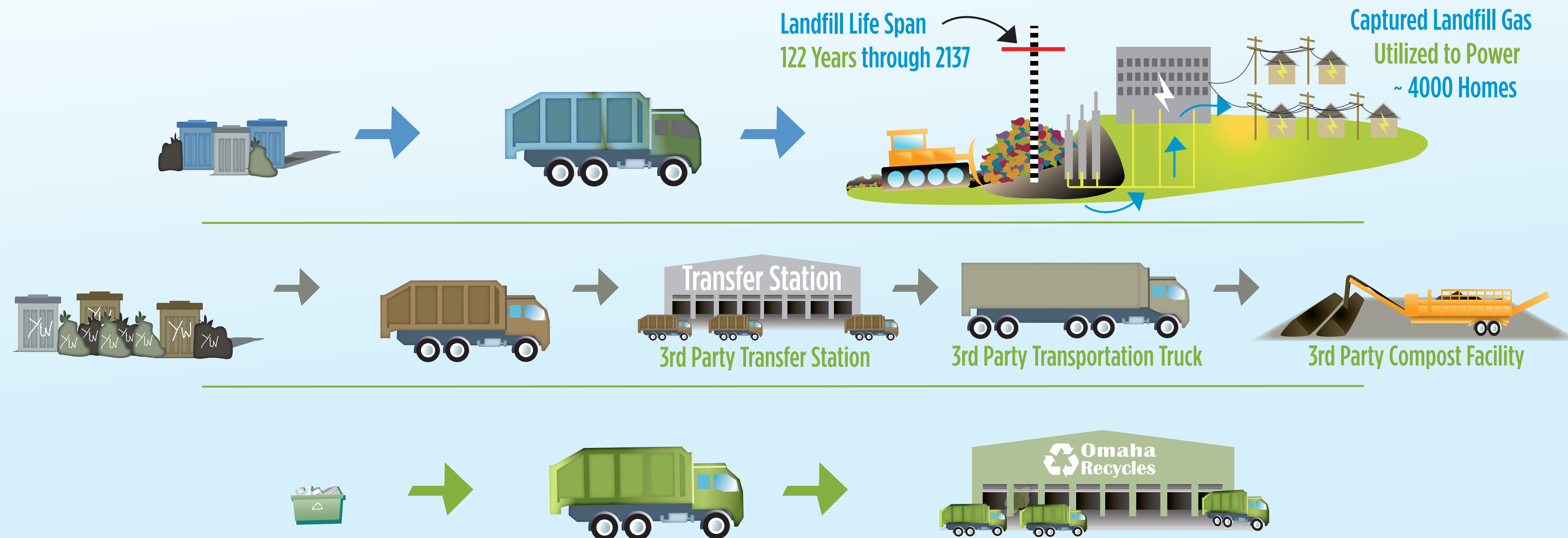
Total Estimated Cost for Scenario #3 is \$400,000 Greater Annually or \$2.80 More Per Household Per Year Than Scenario #1



Scenario #4  
(Similar to Scenario #1)

100% Separate Collection for Garbage, Yardwaste, & Recycling  
Yardwaste Transported to 3rd Party Transfer Station and 3rd Party Compost Facility

Total Estimated Cost for Scenario #4 is \$640,000 Less Annually or \$4.60 Less Per Household Per Year Than Scenario #1



Scenario #5  
(Similar to Scenario #2)

100% Co-Collection for Garbage & Yardwaste, Separate Collection for Recycling  
& Voluntary Diversion of 15% Yardwaste by Citizens

Total Estimated Cost for Scenario #5 is \$8,430,000 Less Annually or \$60.30 Less Per Household Per Year Than Scenario #1

