



# **Solid Waste Management Study for the Town of Waynesville**

**Prepared by Denese Ballew and Brian Taylor from  
Land-of-Sky Regional Council**



# Land-of-Sky Regional Council



- Land-of-Sky is one of 16 regional planning and development organizations created by the state to serve County and Municipal governments
- Town of Waynesville is part of the Southwestern Commission
  - turned to Land-of-Sky because of expertise in **solid waste planning**



# Presentation Outline



- Background
- Purpose of the Study
- Solid Waste Program Baseline
- Municipal Solid Waste (MSW) Disposal Scenarios
- Cost-effectiveness of Solid Waste Program Services
- Privatization
- Summary

# Background



- May 2010: Haywood County announces intention to privatize White Oak Landfill (WOLF) and close Transfer Station
  - ▣ Town of Waynesville projects large cost increases associated with hauling solid waste directly to WOLF and possibly paying tipping fees on residential waste
- August 2011: Haywood County announces that Transfer Station will close on 6/30/12
- October 2011: Haywood County signs contract with Santek to manage WOLF starting 12/1/11

# Purpose of the Study



- Establish a **baseline** of the Town's Solid Waste Program costs and tonnages
- Project the cost of **Municipal Solid Waste (MSW) disposal options**
  - hauling MSW to the **White Oak Landfill (WOLF)**
  - hauling MSW to an **alternative waste disposal site**
  - constructing a **new transfer station** in Waynesville
  - **privatizing** the Town's Solid Waste Program services
- Evaluate the **cost-effectiveness of overall Solid Waste Program** and opportunities for cost reductions

# Solid Waste Program Baseline



Town of Waynesville Solid Waste Services					
Solid Waste Services	SW Expenses, FY 2010-11	Annual Tons Managed	Cost per Ton	Destination	
Commercial Solid Waste	M S W	\$396,024	2,896	\$137	Haywood T-Station
Residential Solid Waste		\$291,342	2,902	\$100	Haywood T-Station
Recycling		\$110,161	345	\$319	Haywood County MRF
Yard Waste*		\$441,256	1,360	\$324	Bible Baptist Rd Site
Street Waste		\$133,645	190		White Oak Landfill
Bulky Waste**		\$74,066	4		Haywood County MRF
<b>TOTAL</b>		<b>\$1,446,494</b>	<b>7,697</b>		

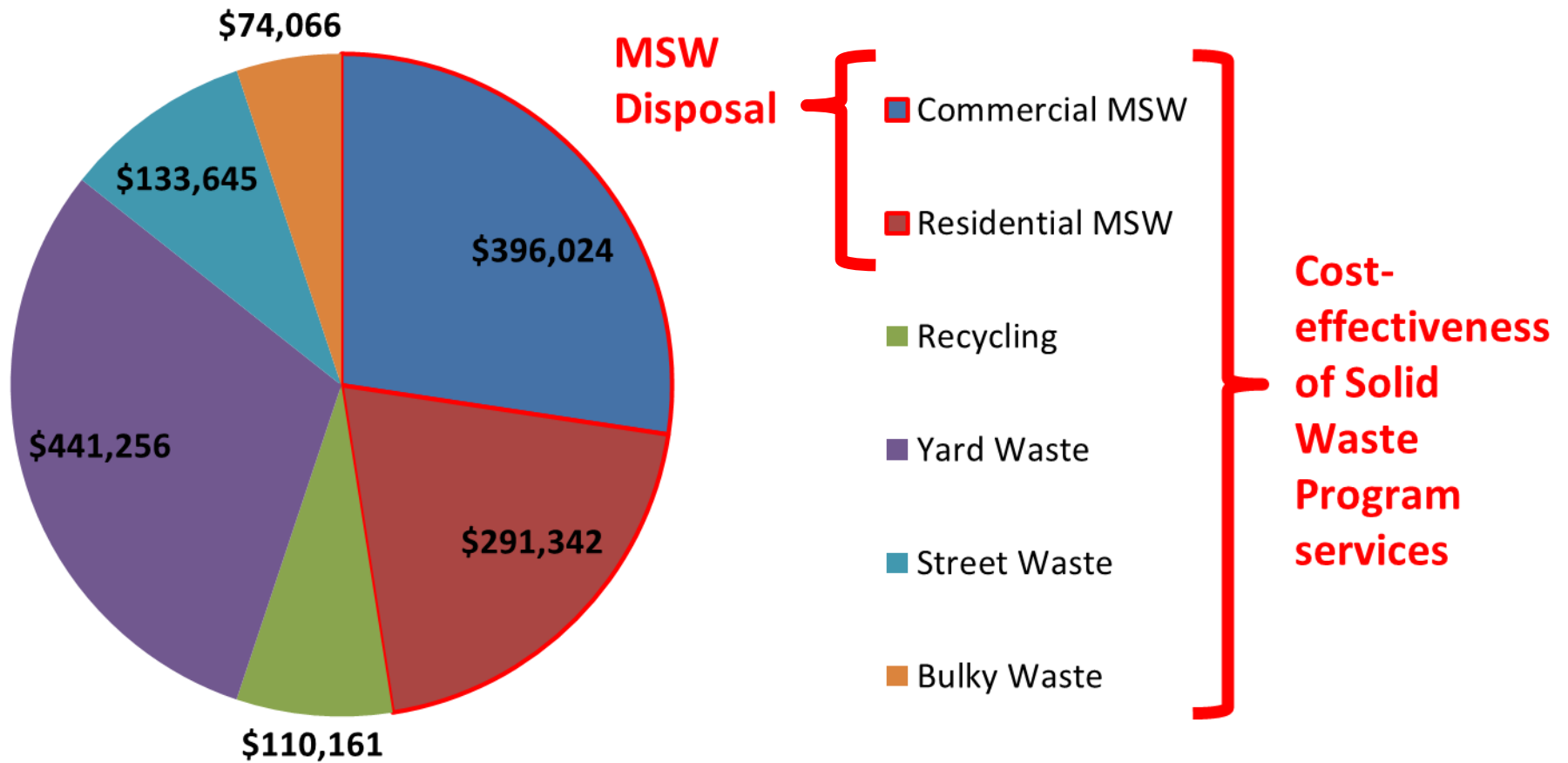
\* Yard waste tonnage is from FY 2008-9 figure in 2009 Haywood County Solid Waste Management Plan (HCSWMP)

\*\* Bulky waste tonnage only includes FY 2008-09 white goods tonnage from 2009 HCSWMP

# Solid Waste Program Baseline



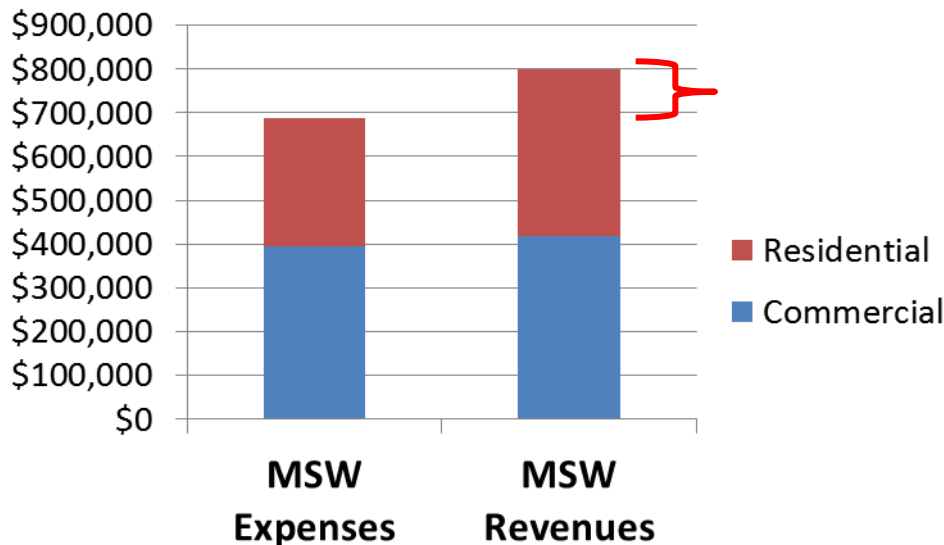
## Solid Waste Program Expenses by Service



# MSW Disposal Baseline

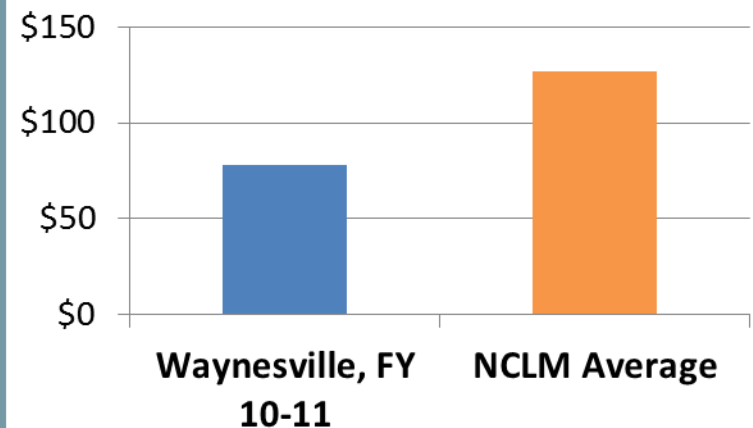


### MSW Expenses and Revenues, FY 2010-11



- Commercial revenues
  - \$16.59/month
  - Dumpster lease fees
- Residential revenues
  - \$6.50/month to 4,650 hhlds

### Annual Household Sanitation Fees



- MSW expenses projected to exceed revenues after closure of Haywood County Transfer Station



# MSW Disposal Scenarios



## Map of Possible MSW Transfer Stations and Disposal Sites in Proximity of Waynesville



# MSW Disposal Scenarios

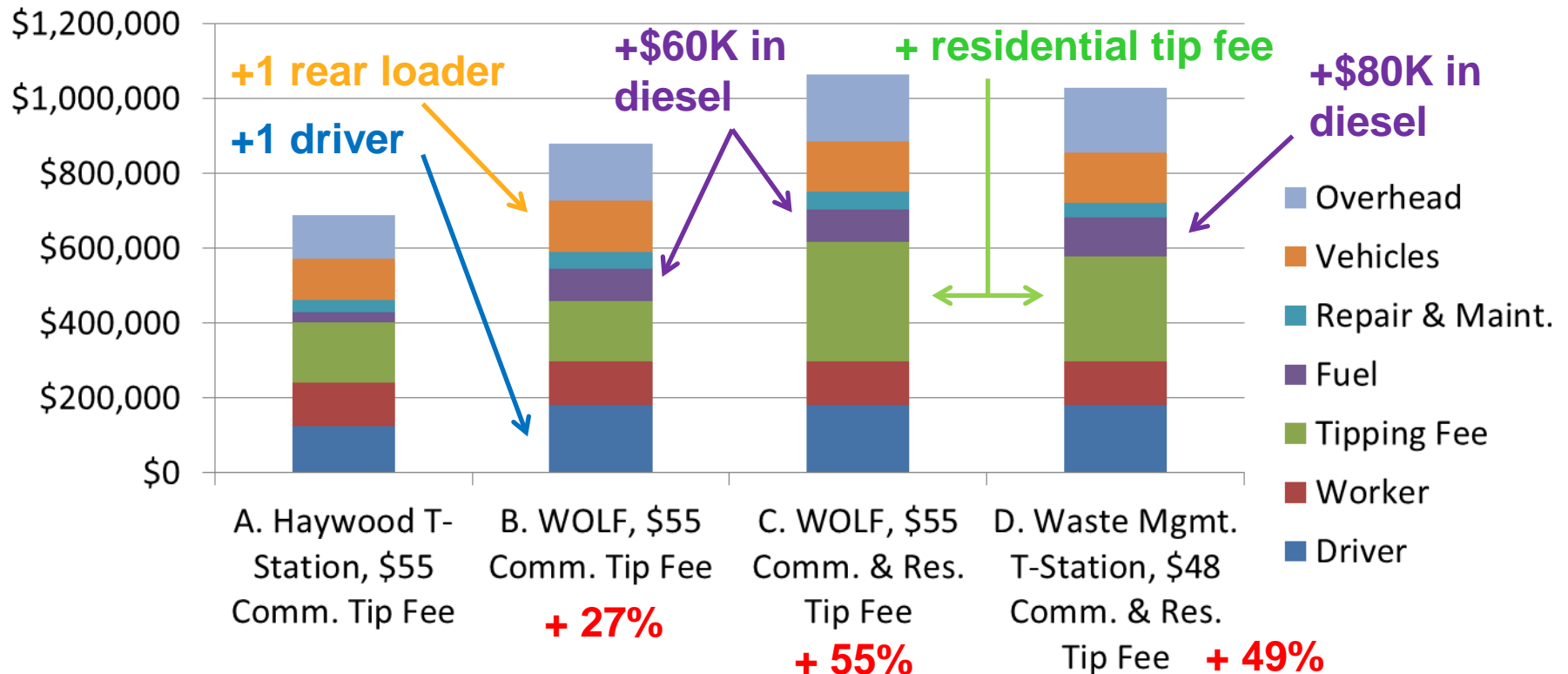


Scenario	Scenario Description	Assumptions		
		Round trip Miles	Comm. Tipping Fee	Res. Tipping Fee
<b>A</b>	Haul MSW to <b>Haywood County Transfer Station</b> and pay \$55/ton tipping fee on commercial waste only. <b>NOT AN OPTION AFTER JUNE 2012</b>	11.6	\$55/ton	\$0/ton
<b>B</b>	Haul MSW to <b>White Oak Landfill</b> and pay \$55/ton tipping fee on commercial waste only.	41	\$55/ton	\$0/ton
<b>C</b>	Haul MSW to <b>White Oak Landfill</b> and pay \$55/ton tipping fee on commercial and residential waste	41	\$55/ton	\$55/ton
<b>D</b>	Haul MSW to <b>Waste Management Transfer Station</b> and pay \$48/ton tipping fee on commercial and residential waste	54.8	\$48/ton	\$48/ton
<b>E</b>	Construct a <b>new transfer station</b> on Town property to be operated by a private contractor	3.6	\$55/ton	\$55/ton

# MSW Disposal Scenarios, Year 1 Hauling Scenarios



## MSW Disposal Expenses to Town under, Current (A) and Future Scenarios (B, C, D)



Current (A) & Future (B, C, D) Municipal Solid Waste Disposal Scenarios

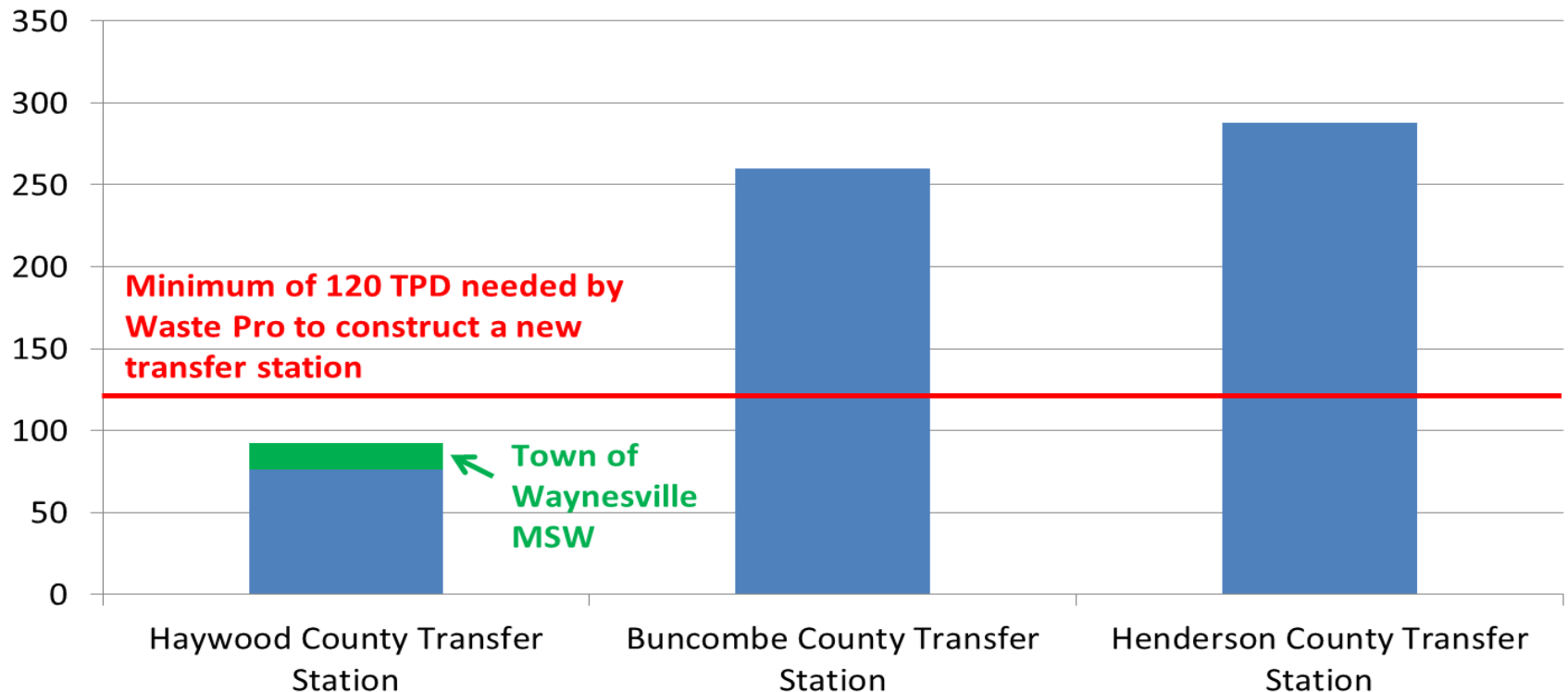
# MSW Disposal Scenarios, New Transfer Station



E

Construct a new transfer station on Town property to be operated by a private contractor

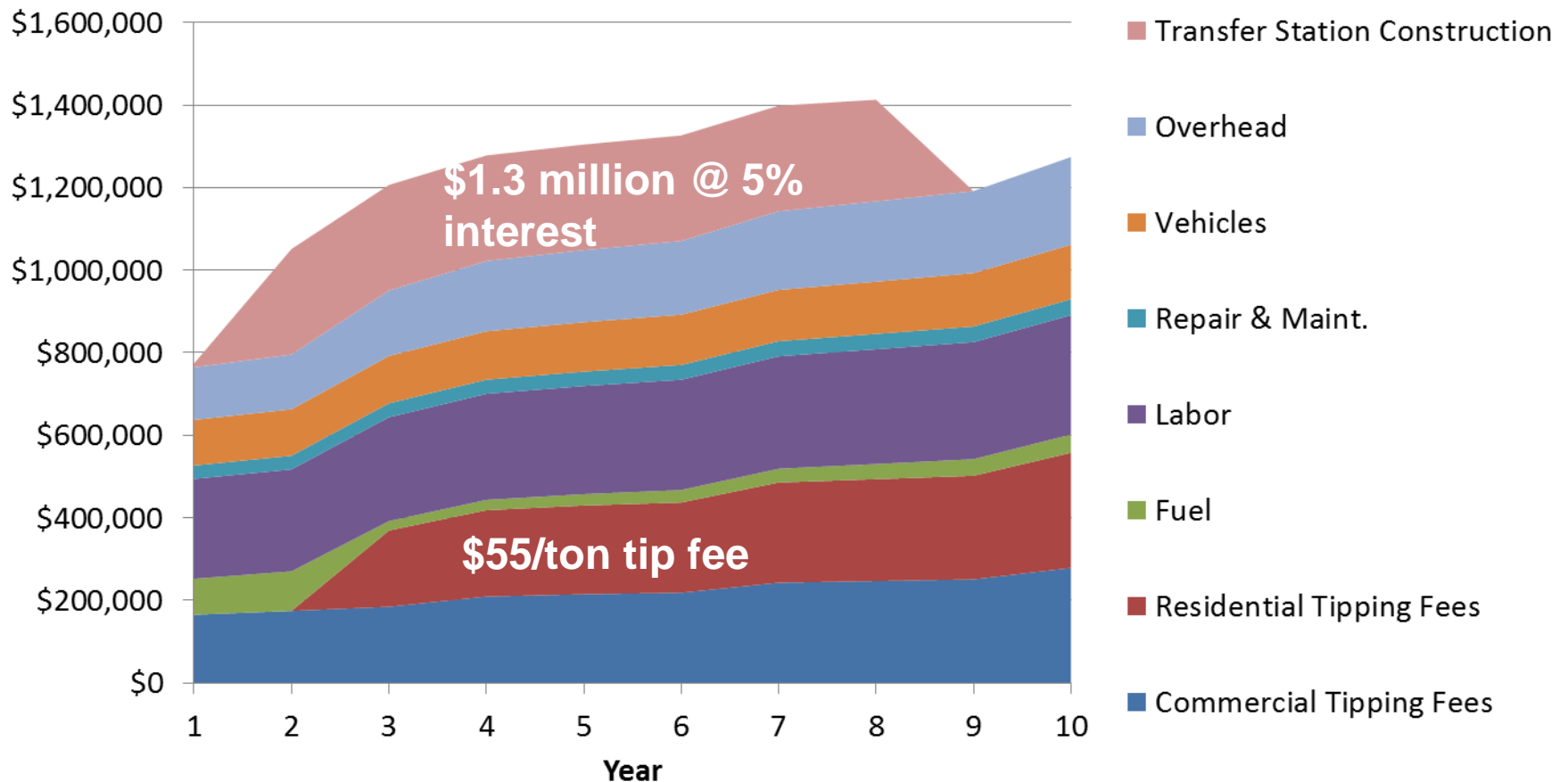
## Average Tons Per Day



# MSW Disposal Scenarios, New Transfer Station



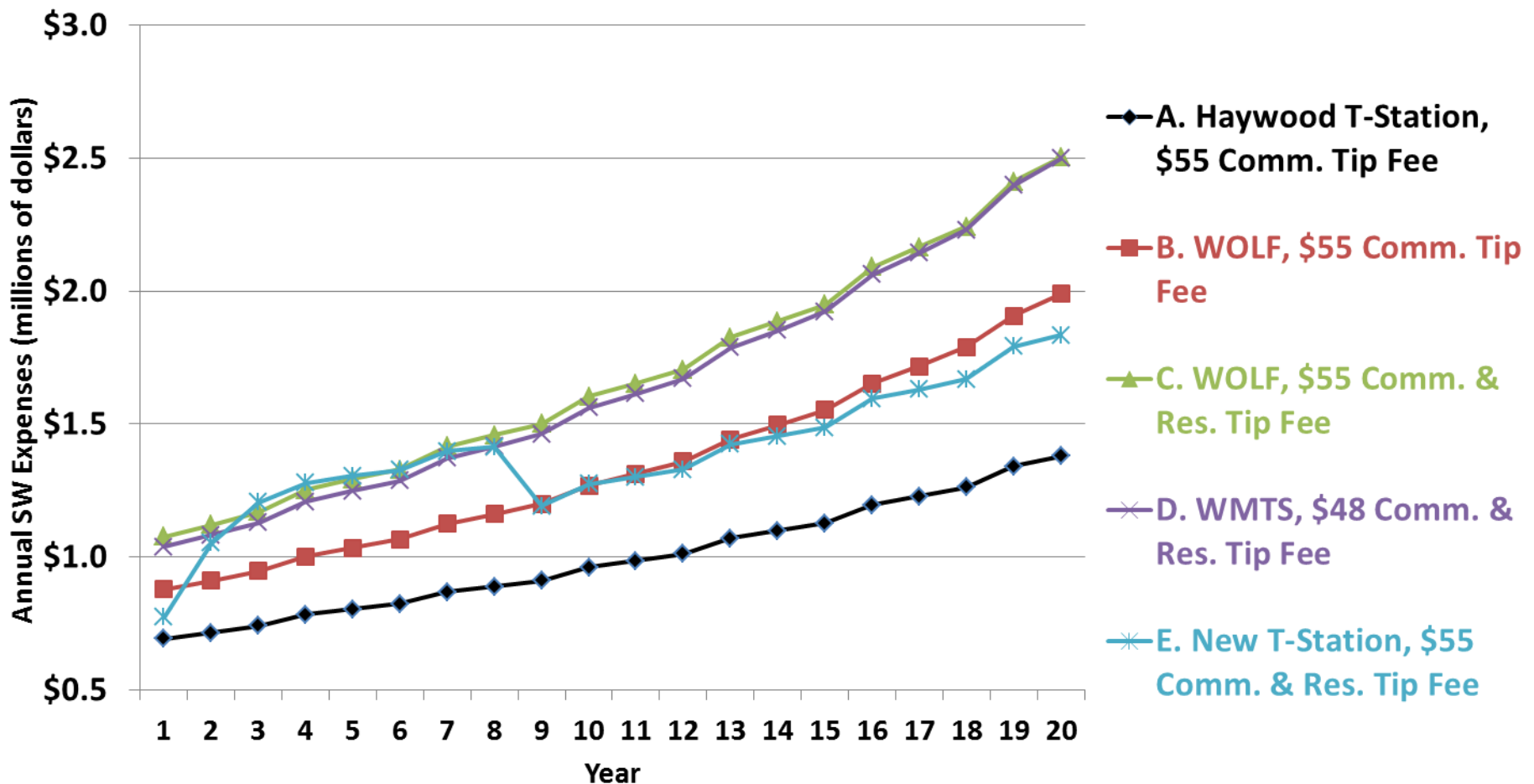
## MSW Expenses in New Transfer Station Scenario (E)



# MSW Disposal Scenarios



## MSW Disposal Options, 20 Year Projected Annual Expenses



# MSW Disposal Recommendations



Scenario	Scenario Description	Assumptions			Projections
		Round trip Miles	Comm. Tipping Fee	Res. Tipping Fee	Cumulative Cost in Year 20 (millions)
<b>A</b>	Haul MSW to Haywood County Transfer Station <b>NOT POSSIBLE AFTER JUNE 2012</b>	11.6	\$55/ton	\$0/ton	\$19.9
<b>B</b>	Haul MSW to White Oak Landfill and pay no residential tipping fee	41	\$55/ton	\$0/ton	\$26.8
<b>C</b>	Haul MSW to White Oak Landfill and pay tipping on all waste	41	\$55/ton	\$55/ton	\$33.5
<b>D</b>	Haul MSW to Waste Management Transfer Station	54.8	\$48/ton	\$48/ton	\$32.9
<b>E</b>	Construct a new transfer station on Town property to be operated by a private contractor	3.6	\$55/ton	\$55/ton	\$27.7

# MSW Disposal Recommendations



- **Haul MSW to the White Oak Landfill**
  - ▣ If a residential tipping fee is NOT charged at WOLF
    - Most likely scenario based on recent discussions with the County
    - Takes advantage of County sanitation fee to Town residents
- **Consider constructing a new transfer station**
  - ▣ If a residential tipping fee is charged at WOLF, and
  - ▣ If sufficient tonnage is available for a new transfer station
- **Consider hauling to Waste Management Transfer Station**
  - ▣ If a residential tipping fee is charged at WOLF, and
  - ▣ If insufficient tonnage to justify new transfer station construction



# Cost-effectiveness of Solid Waste Program



Town of Waynesville Solid Waste Services				
Solid Waste Service	SW Expenses, FY 2010-11	Annual Tons Managed	Cost per Ton	Destination
Commercial SW	\$396,024	2,896	\$137	Haywood T-Station
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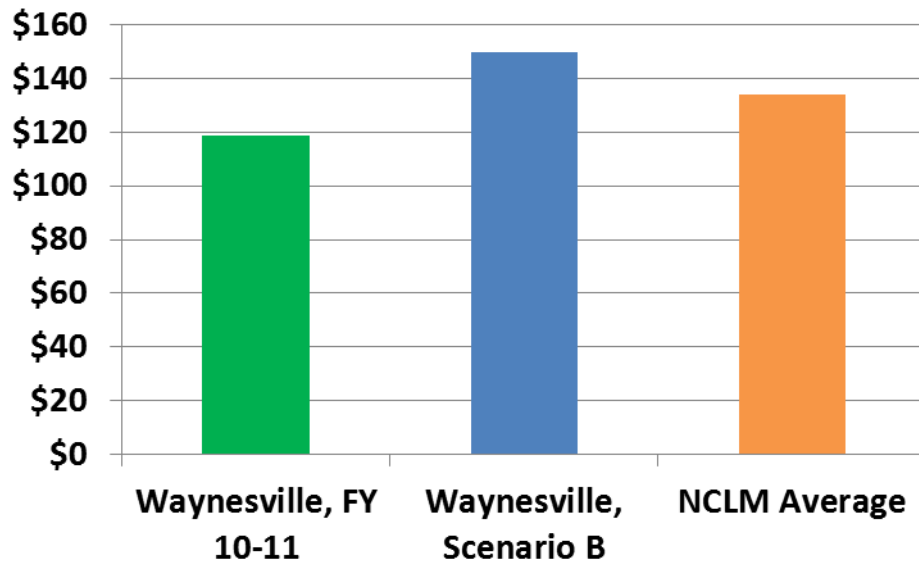
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# Cost-effectiveness of Solid Waste Program, MSW



Annual MSW Costs per Ton



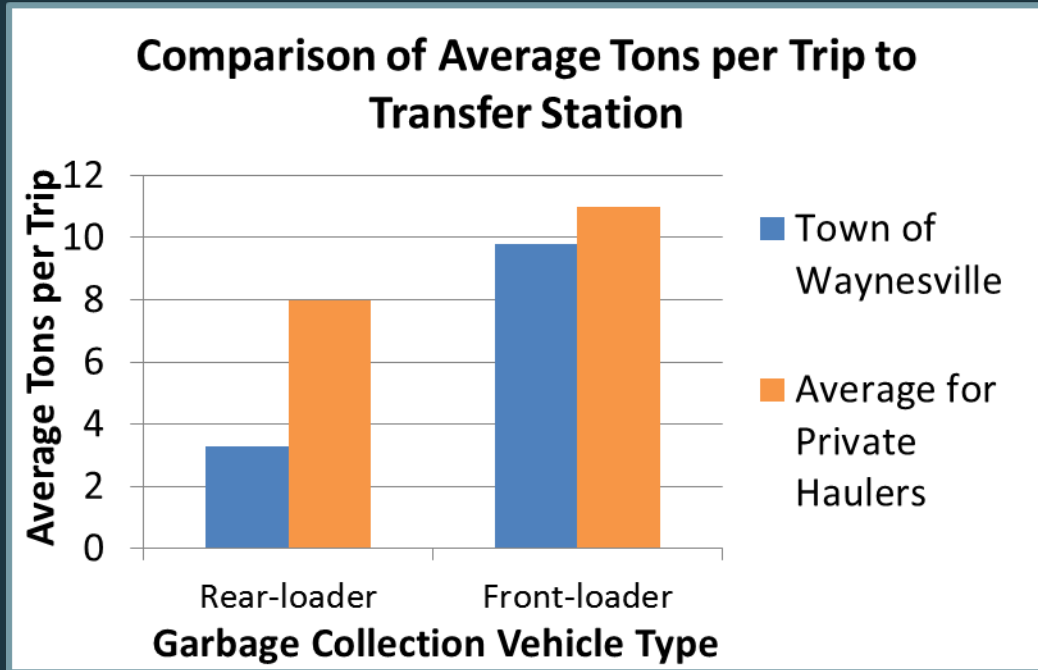
- NCLM benchmarks based on 2010 data from similarly sized municipalities in North Carolina

- Town MSW cost of \$119/ton is below NCLM average of \$135/ton
- Hauling to WOLF could increase Town's MSW cost to at least \$150/ton

# Cost-effectiveness of Solid Waste Program, MSW



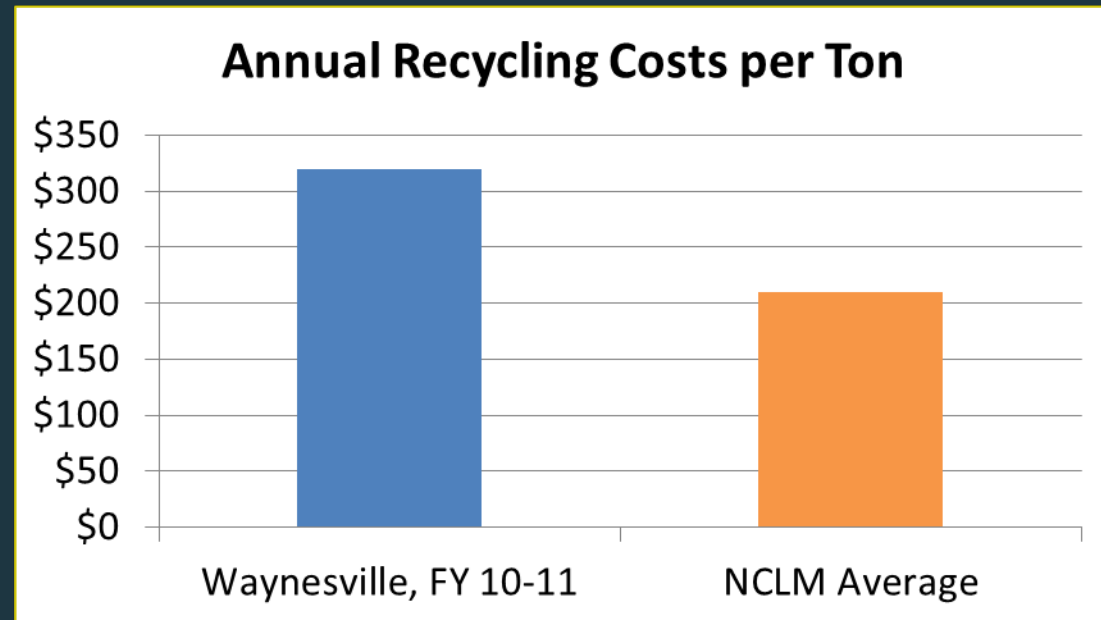
- Increase tonnage per trip on rear loaders
  - ▣ Find overnight parking area with leachate containment
  - ▣ Reduce trips to landfill from 9 to 6
- Reduce staffing levels on rear loaders
- Evaluate efficiency of collection & disposal routes



# Cost-effectiveness of Solid Waste Program, Recycling



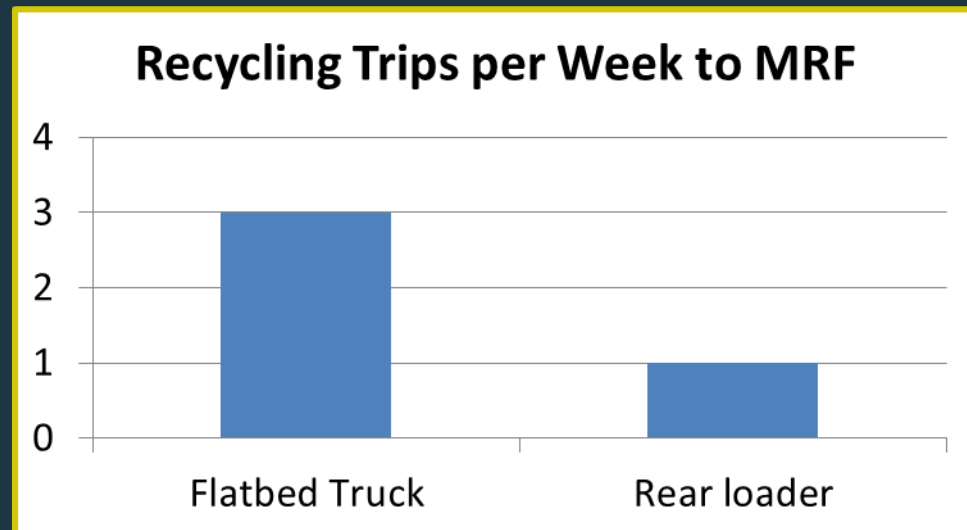
- Recycling costs the Town \$319/ton
  - ▣ above NCLM average of \$210/ton
- High cost per ton reflects low recycling rate
- Higher recycling rate could reduce MSW costs by reducing trips to the landfill and tipping fees



# Cost-effectiveness of Solid Waste Program, Recycling



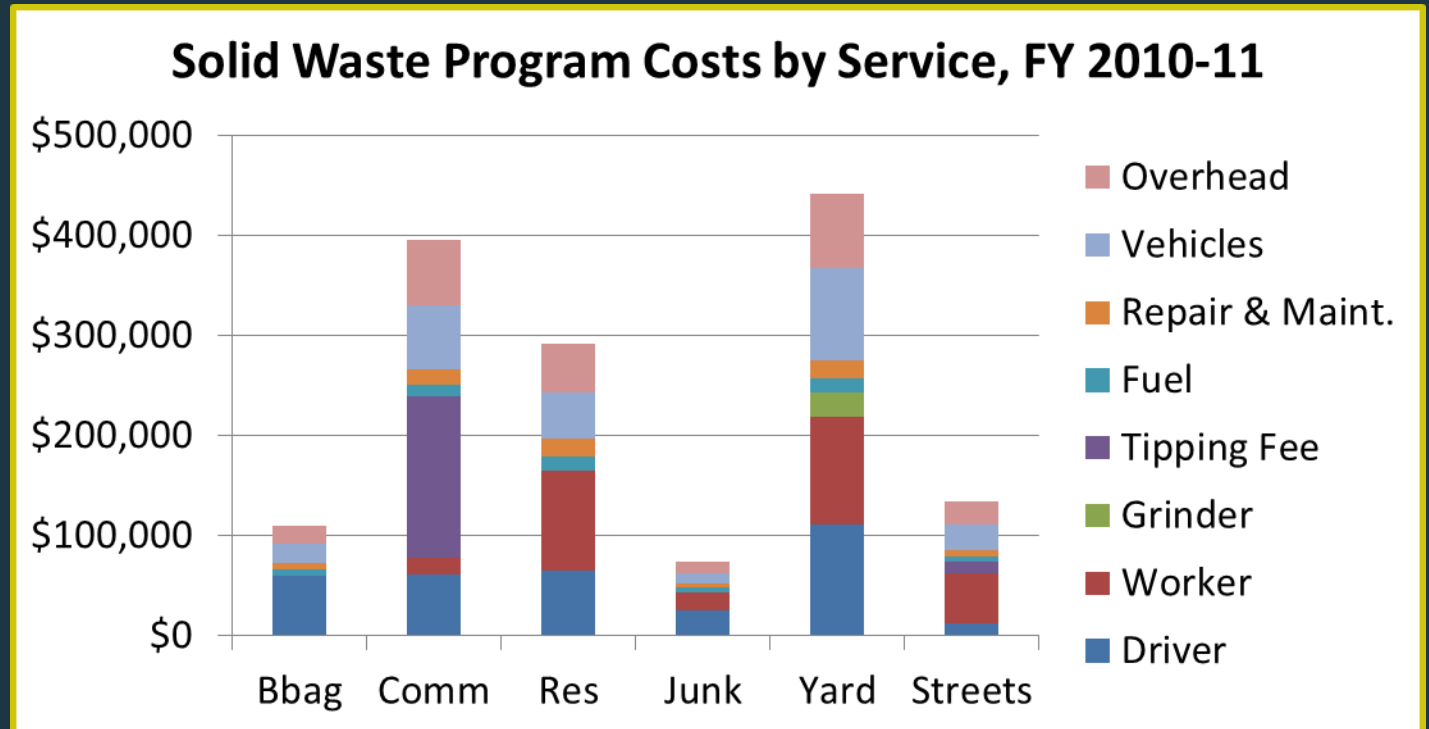
- Increase recycling rate
  - ▣ Roll-out cart pilot program grants from NC DEAO
  - ▣ Assistance with recycling education & outreach from WRP
  - ▣ Encourage businesses using Town solid waste services to increase recycling with Town or private contractor
- Use rear loader to reduce trips to the MRF
- Work with County to keep recycling staging area open



# Cost-effectiveness of Solid Waste Program, Yard Waste



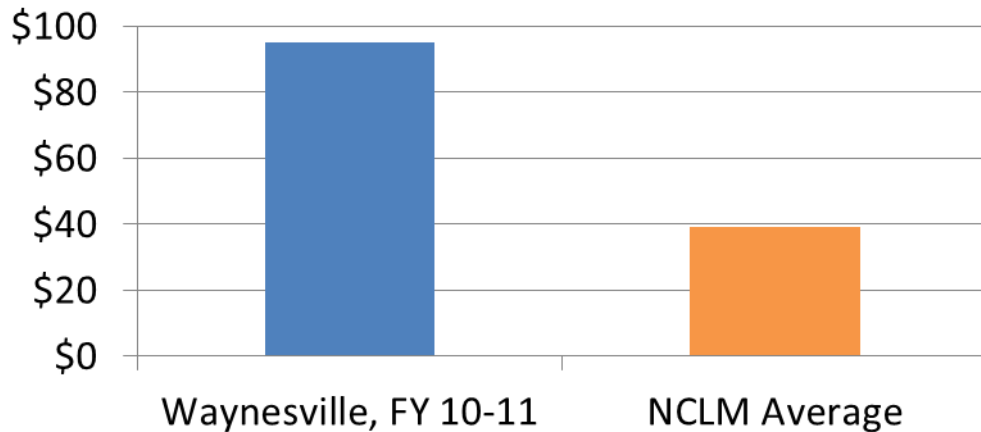
- Yard waste is the most expensive service in the Town's Solid Waste Program
  - ▣ High labor and equipment costs



# Cost-effectiveness of Solid Waste Program, Yard Waste



**Annual Yard Waste Costs per Household**



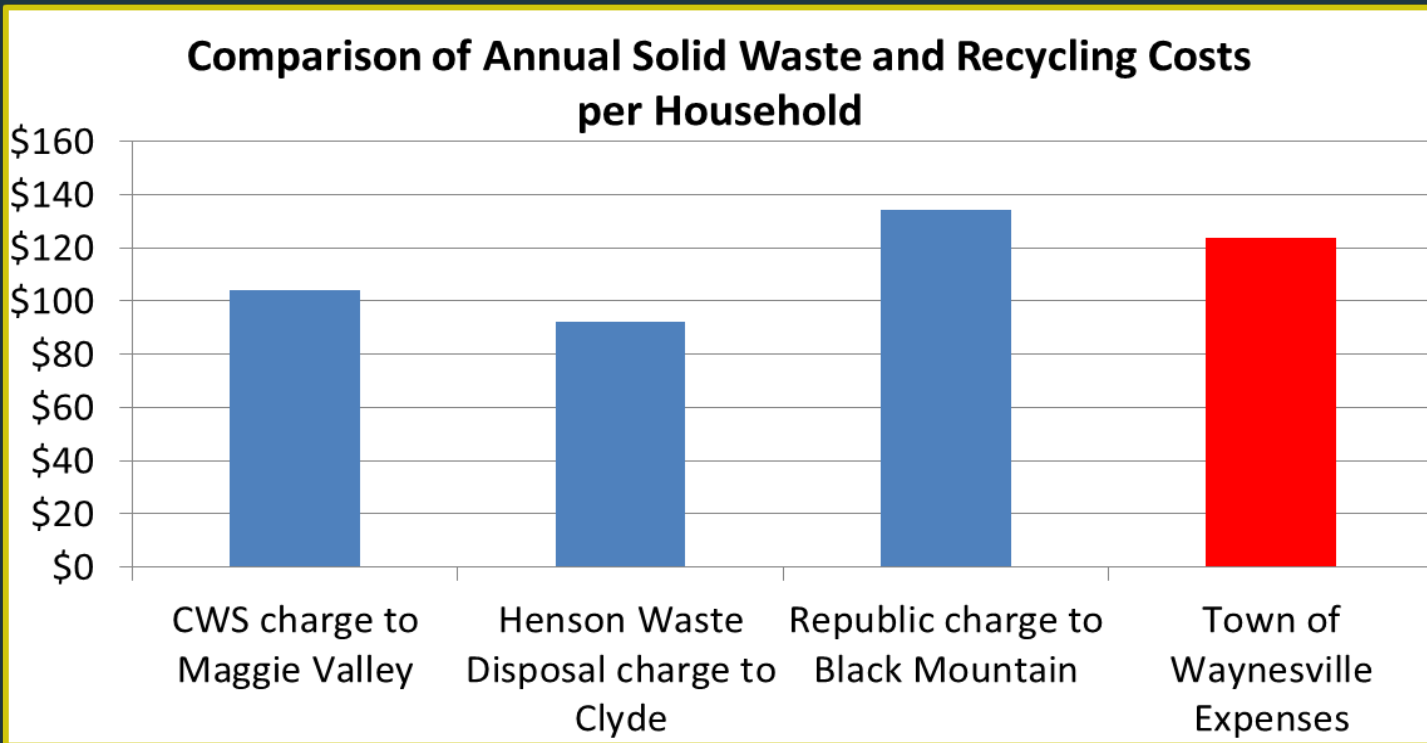
- Yard waste cost of \$95/household is well above NCLM average of \$39

- Charge for yard waste collection above a certain volume (e.g. roll-out cart purchased from Town)
- Implement backyard composting program

# Privatization of Town Solid Waste Program Services



- Privatization could lower the Town's solid waste costs
- Privatization of MSW often coupled with recycling
- Issues with Town's capital investments and cross-trained personnel





# Recommendations



- Municipal Solid Waste Disposal
  - ▣ Haul commercial and residential solid waste to WOLF
    - estimated to increase the Town's MSW costs by 25%
  - ▣ Negotiate written agreements with Haywood County to
    - waive residential tipping fees at WOLF and
    - reimburse the Town for the increased cost of hauling to WOLF

# Recommendations



- **Cost-effectiveness of the Town's Solid Waste Program**
  - **Municipal Solid Waste**
    - Increase MSW tons per trip on rear-loaders
    - Minimize staff on rear-loaders
    - Re-evaluate routing efficiency after June 2012
    - Increase recycling rates to divert MSW from WOLF
  - **Recycling**
    - Increase recycling tons per trip with rear loader
    - Work with County to maintain staging areas for recyclables
  - **Yard Waste**
    - Charge for yard waste service above a certain volume
    - Implement backyard composting program

# Questions



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