

# Whitefield Zero-Waste Project

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The Town of Whitefield New Hampshire is investigating alternative designs for a new transfer station. The current transfer station has several inefficiencies the town seeks to address by retrofitting a vacant building, Brown Street Furniture. Retrofitting the structure involves demolishing the unusable portion of the building, while preserving the newer portion. Team 18 provided two alternative designs, ultimately deciding the bi-lane facility is the best option, which provides the best opportunity for Whitefield to pursue Zero-waste. The larger facility will provide the opportunity to pool recyclable waste from surrounding towns, alleviate flow congestion and create an efficient work environment for the operators(s). Team 18 also researched alternative recyclable markets for Whitefield's waste, determining the material broker NRRA was the best choice in their region, given the volume of waste that Whitefield generates. Team 18 made a pamphlet for the residents of Whitefield and recommends providing educational classes on recycling to involve the community and teach the importance of sorting and the benefits. Currently the town does not have a strict recycling policy, it is recommended that they try to enforce recycling the best that they can to reach the goal of 75% total trash by weight diverted to recycling instead of landfills.

### Zero Waste Transfer Station

Whitefield, New Hampshire

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<h4 style="background-color: #4CAF50; color: white; padding: 2px;">Site Background</h4>   <div style="background-color: #4CAF50; color: white; padding: 5px; text-align: center;"> <b>Town of Whitefield</b>  <small>New Hampshire Incorporated 1864</small> </div> <p>Population: 2,213 Median Age: 51 years Median Income: \$32,893</p> <h4 style="background-color: #4CAF50; color: white; padding: 2px;">Current Facility Concerns:</h4> <ul style="list-style-type: none"> <li>• Operation Inefficiencies</li> <li>• Environmental Impacts</li> <li>• Community Access</li> <li>• Increased MSW disposal costs</li> </ul>	<h4 style="background-color: #4CAF50; color: white; padding: 2px;">Transfer Station Design Alternative I</h4>  <ul style="list-style-type: none"> <li>• Drive in- drive out facility</li> <li>• Bi-lane traffic</li> <li>• Left lane to dispose of larger wastes</li> <li>• Right lane to dispose of recyclables</li> </ul> <h4 style="background-color: #4CAF50; color: white; padding: 2px;">Transfer Station Design Alternative II</h4>  <ul style="list-style-type: none"> <li>• Drive in- drive out facility</li> <li>• Single lane traffic</li> <li>• Left side to dispose of all recyclables and MSW</li> <li>• Right side contains administrative offices</li> </ul>	<h4 style="background-color: #4CAF50; color: white; padding: 2px;">Existing Policy</h4> <h5 style="background-color: #4CAF50; color: white; padding: 2px;">Pay-As-You-Throw Incentive Program</h5> <ul style="list-style-type: none"> <li>• Reduces amount of recyclable material entering the waste stream</li> <li>• Achieves higher material purity</li> </ul> <h4 style="background-color: #4CAF50; color: white; padding: 2px;">Proposed Policy</h4> <ul style="list-style-type: none"> <li>• Stricter separation at the household level</li> <li>• Use of educational material</li> <li>• Higher Value Incentives</li> <li>• Clear and concise ordinance documents</li> </ul>	
<h4 style="background-color: #4CAF50; color: white; padding: 2px;">Defining Zero Waste</h4> <p><b>Implementation of a new facility achieves:</b></p> <ul style="list-style-type: none"> <li>• Diversion of 75% of waste by weight as recyclable material</li> <li>• Remaining 25% of waste disposed of in a landfill</li> </ul>	<h4 style="background-color: #4CAF50; color: white; padding: 2px;">Recommendations</h4> <ul style="list-style-type: none"> <li>• Design I alleviates Whitefield's concerns</li> <li>• A bi-lane traffic pattern smoothens operations and allows for a higher volume of flow</li> <li>• The tipping floor is spacious for adequate work areas</li> </ul> 		<h4 style="background-color: #4CAF50; color: white; padding: 2px;">Market Research</h4> <p><small>the amount of recyclable material will increase with the new transfer station design, creating the need for buyers that are willing to purchase large quantities of recyclable materials</small></p> <p><small>-Distance was considered in the evaluation of buyers, however quantities effects the scheme of cost.</small></p> <p><small>-Glass currently is costing the Whitefield transfer station 35 dollars per ton to ship to Litchton, NH, which is not desirable as it is not generating revenue.</small></p> <p><small>-Disposal of MSW to a landfill costs \$57 per ton plus an additional \$2.72 transportation fee per ton. (saves the town 52 dollars, as both require transportation, the transportation fee was excluded; furthermore, it is also more environmentally friendly.)</small></p>
<h4 style="background-color: #4CAF50; color: white; padding: 2px;">Conclusion</h4> <p><small>Whitefield must educate residents to initiate Zero-Waste, public support is necessary. Bi-Lane drive in drive out is most economical and efficient retrofit determined</small></p>			