2009
Transfer Station Excellence Award Nomination
South Transfer Station
Montgomery County Solid Waste District, Ohio

SWANA
Member

Montgomery County

HDR
2009 TRANSFER STATION EXCELLENCE AWARD

NOMINATION FORM

Program/Facility Nominated:

Montgomery County South Solid Waste Transfer Station

Contact Person Name & Title: Bob Downing - Division Manager

Address: 2550 Sandridge Dr.

City, State, Zip/ Province, Postal Code: Dayton, Ohio 45439

Phone #: 937-496-3108 Fax #: 937-496-7036 Email: downingb@mcohoio.org

Nomination submitted by (if different than information listed above):

Name: Debra Frye Phone #: 816-360-2709 Email: dfrye@hdrinc.com

If selected for an award, how would you like the name of the organization to read on the award (limit of 50 characters)?

Montgomery County South Solid Waste Transfer Station

2009 Applications must be submitted to SWANA no later than Friday, April 3, 2009

*** PLEASE NOTE THAT ENTRY REQUIREMENTS HAVE RECENTLY CHANGED***
See the attached Entry & Eligibility Requirements sheet for further information

Application Checklist (Please make sure the following items are included in your submittal packet):

- Completed nomination form with signed release statement (this page)
- 1 original hard-copy application binder
- 1 copy of your award submittal on a CD-ROM
- Executive Summary of your nomination (NO more than 200 words)
- At least 2 pictures of your operation (may be included in nomination text)
- Check (made payable to SWANA) for nomination fee (in U.S. dollars)

Please mail all application packages to:

SWANA
ATTN: Technical Programs Department
1100 Wayne Avenue, Suite 700
Silver Spring, MD 20910

Release Statement: I certify that the information provided in this application is accurate and correct to the best of my knowledge. SWANA reserves the right to publish the enclosed information. Nominations become the property of SWANA. My signature gives SWANA the right to reprint or make available for purchase any portion of this submittal.

Signature: ______________________________ Date: 3/25/09
Executive Summary

For the Solid Waste District of Montgomery County, Ohio, it’s all about the experience – the solid waste experience for users and operators of its South and North Transfer Stations. Beginning in the 1990s and culminating with the opening of an expanded, state-of-the-art redesign of the South Transfer Station, the District has built a world-class solid waste operation for this southwestern Ohio county.

With efficiency of use and revenue savings as key motivators, the Montgomery County Solid Waste Division implemented the transformation of the South Transfer Station into a user-friendly facility that doesn’t look like a place for trash. The South Transfer Station Expansion Project gives Montgomery County an inviting, clean and open facility that is easy to navigate and easy to use with a friendly staff, ready to help both commercial and public users.

From public education programs to advanced technologies that provide environmentally friendly and fiscally and socially responsible solid waste management, the Montgomery County Solid Waste District is helping to grow the next generation into a group that understands the value of reducing, reusing and recycling, as a key step on the road to a sustainable future.
1. Design of the Facility
Montgomery County, Ohio, is home to more than 550,000 residents, including those who live in the county seat of Dayton. It is one of several counties across the United States named for Revolutionary War hero Richard Montgomery, one of the first three general officers of the Continental Army, who was killed in battle during the invasion of Canada on New Year’s Eve, 1775. Montgomery County, Ohio, is also known as the birthplace of aviation, where the Wright brothers, Orville and Wilbur, designed and developed their planes.

Today, Montgomery County is also home to Curby the Cardinal and Lucky the Ladybug, mascots of the Montgomery County Solid Waste District. As a unit of the Montgomery County Public Works Department, the Solid Waste District provides efficient, effective and environmentally responsible solid waste services throughout the 464 square miles that comprise Montgomery County.

From Then to Now, an Evolution in Waste Management
In the early 1970s, Montgomery County built two 600 ton-per-day municipal waste combustion facilities to accommodate waste disposal needs. Known as the North Plant and the South Plant, these two facilities served the needs of metropolitan Dayton for more than a quarter century.

As time marched forward, so did technology, awareness of environmental issues and community interest and involvement in how solid waste is disposed of by local authorities. The result was an initial evaluation of the potential to upgrade both combustion facilities with state-of-the-art incineration and air pollution control equipment, which gave way to an alternative plan to retrofit both facilities with transfer stations.

From the inception of this plan in the mid-1990s, Montgomery County moved forward quickly, with two new transfer stations in place by 1997. As the public embraced these new facilities as a positive replacement for the old combustion plants at the two sites, it became clear that more improvements were needed to meet demand. The result was the transformation of the South Plant, located in the rapidly growing southern area of the county, into a full-service campus that offers transfer services, material recycling and reuse and support facilities for other county departments to carry out their missions.

It’s All About Efficiency
The two transfer stations were in place by the late 1990s, replacing the original combustion facilities. While the North and South Transfer Stations met the needs of area residents for several years, by the turn of the century, lines of vehicles at the South Plant were getting longer and wait times were increasing. The Montgomery County Solid Waste District launched the South Transfer Station Expansion Project to keep pace with demand and ensure a positive user and operator experience. Planning for the expansion project began in the fall of 2004 and design, permitting and bidding was completed in 2005. Phased construction took just over two years and the facility opened to the public in 2006, with the final completion of the project in 2007.

Key design elements of the expansion project included:
- Tipping floor repairs and additional loadout scales under the original loadout hoppers
- Creating a new access to the site via Encrete Lane and an extension to Cardington Road
- Construction of a new 41,300 square foot public tipping floor with two open top hoppers with loadout scales
- New commercial scales and public scale houses and public scales
- Relocation of the fuel depot
- Construction of a new recycling canopy
- Construction and renovation of new administrative office building
- Renovation of locker rooms
- New site signage and logistics

The expanded South Transfer Station, completed in 2007, is all about efficiency. This includes efficiency of operations, which keeps costs down and benefits users and operators alike, as well as efficiency of use, which keeps public users moving through the area without the long waits that characterized their experience before the expansion. The improved user and operator experience has positive spillover effects of reduced impact on facility neighbors and the environment.

**Operating Efficiency:** Before the expansion, the South Transfer Station allowed at most only four or five public vehicles to unload at one time, with minimal floor storage areas for waste. The result was traffic backups at the scale house, with vehicles queuing onto neighborhood streets and a tipping area that required frequent cleaning with a front-end loader. With most public users paying to use the transfer station facilities with cash, the time to scale out and pay was very slow, causing yet more traffic to back up inside the building.

In contrast, the new facility design includes a 41,000-square-foot addition dedicated for public drop-off, with space for up to 13 vehicles at a time to unload waste. There are additional drop-off zones inside the building for yard waste, tires, metals and white goods. The expansion project includes a new entrance outfitted with five scales: two inbound and three outbound. One of the outbound scales is dedicated to commercial users while two are available for public use.

**Operating Throughput:** The pre-expansion South Transfer Station included three old compactors (not pre-load type) that were slow, high-maintenance and not effective at increasing solid waste density. The compactors were removed as part of the new design and replaced with two open-top hoppers. Loadout scales were installed under the existing three loadout bays.
Construction of a new entrance with two inbound and three outbound scales has reduced the public wait time to use the facility from up to an hour to merely a matter of minutes.

The difference in efficiency is clear in the numbers. In 2003, the South Transfer Station processed 1,900 tons on its peak day. Today, the expanded facility is designed to process up to 6,000 tons per day with the additional floor space and extra open top hoppers.

User Experience: In the pre-expansion days, it was common for office workers to spend a lot of time fielding complaint calls from individuals sitting in their vehicles outside the transfer station, stuck in a queue. That doesn’t happen any more. The old facility was also poorly lit and poorly ventilated. In contrast, the new public facility features translucent panels on all sides, providing natural daylighting, and a high-volume ventilation system provides clean air throughout the processing floor area.

The result is a decrease in public wait time to use the facility to minutes rather than up to an hour in line. Once past the scales, public vehicles follow separate roads from commercial vehicles, increasing safety and improving overall user experience. From entering the facility to unloading materials to exiting the site, users have a pleasant and safe experience.

A public drop off canopied area was installed in front of the scales for recyclable materials and household hazardous materials, allowing a quick and efficient way to recycle these materials without having to wait to cross the scales. In addition, once a month small businesses can drop off electronic wastes for free.

Operator Experience: Cold in the winter; hot in the summer. That was life around the old scalehouses. There were settlement problems, and the windows did not seal. The “track” cash carrier system was slow and required frequent maintenance. The unloading floor was dark with poor ventilation. Offices were noisy and smelled of diesel fumes. Education material was stored in temporary “Pods.” All in all, it was not the most pleasant of experiences.

Flash forward to today – with the expansion project complete, system operators now enjoy a new, modern scalehouse and associated facilities. The design included additional soil compaction below the slab, hard piping of stormwater away from the scalehouse, increased insulation and a new higher-efficiency HVAC system. A pneumatic tube system improves safety for the scale operators. The automated scale system dedicated to commercial vehicles eliminated the need for an additional commercial scale house and scale operator. At the transfer station, the translucent panels allow natural daylight to brighten the entire tipping floor environment.
The design for the new administration building also features extensive natural daylighting, a high-efficiency HVAC system with separate zone controls and a carbon filtering system to eliminate any diesel fumes. A large storage room and a conference room with audio-visual systems provide expanded room for public education and outreach efforts. Security cameras installed throughout the site help safeguard county assets and improved safety for all at the facility.

**An Environmentally Friendly and Neighborly Place**

The design for the South Transfer Station Expansion included redesign of roadways in and around the site. The changing of the facility entrance from Sandridge Drive to Encrete Lane reduced traffic flow in front of the facility to include only visitors and staff. The new administration building, visible from the public roadway, has brought many positive comments from neighbors and even the occasional, “Where’s the transfer station?” questions from those who don’t think the expanded site looks like a place for solid waste.

The old facility featured a tire drop off area under an outdoor canopy with yard waste collected outside, along with a grouping of old equipment stored on a neighboring hill, which was not a pretty sight. The new facility design allows tires and yard waste to be dropped off and stored inside an enclosed building. Beyond the obvious visual improvement, this also eliminated the need to spray tires for mosquitoes. All waste storage and processing now occurs inside with floor drains that are treated in a grit box and an oil/water separator. The equipment is also gone from the hillside.

The new stormwater system has eliminated the runoff problem and places that had been eroded or where sinkholes had opened were repaired and solved the problem from heavy storms that would back up the old system. The design for the new stormwater system includes a pond with capacity to handle off-site drainage and eliminate problems caused by major storms. A gabion stone mattress was installed on steep slopes at the site for greater stormwater control.
2. Environmental Controls and Regulatory Compliance

Based on the principles of excellence, innovation, teamwork, mutual respect, commitment and integrity, the mission of the Montgomery County Solid Waste Division is defined as:

*To improve the quality of our environment by assisting the citizens, schools and business of Montgomery County in managing their solid waste.*

The county also promotes the vision of the Solid Waste District as:

*To continually improve the efficiency and effectiveness of how we provide quality waste disposal, recycling and waste reduction options for our citizens in a safe and environmentally responsible manner.*

To meet the mission goals and fulfill the vision, the Montgomery County South Transfer Station Expansion Project provides the residents of metropolitan Dayton and all county communities with a modern, state-of-the-art transfer station that was designed to minimize the impact on the environment and maximize opportunities for reducing and reusing and recycling materials. Also, by enclosing operations inside the new facility, noise and odor problems are effectively eliminated.

**Reusing Even the Location**

When Montgomery County realized that its existing facilities were not meeting the community’s needs, rather than developing a Greenfield site, the county decided to transform the existing South Transfer Station into a state-of-the-art location. The retrofit of the existing site included salvaging and reusing existing elements as much as possible. For example, the previous tire drop-off canopy was moved, refurbished and rebuilt to serve as a canopy for the recyclables drop off area. Old fueling station equipment was reused in a new location that included the addition of a new storage tank for potential future use of biodiesel or other alternative fuel.

The expansion also provided an opportunity for overall site clean up, with old metal, tires and other debris removed and portions of the site restored to a natural habitat with native grasses planted in protected areas. The South Transfer Station provides a single drop-off location where residents can bring their recyclable materials.

**LEEDing the Way**

The new facilities associated with the South Transfer Station Expansion Project were designed using checklists established by the U.S. Green Building Council and the Leadership in Energy and Environmental Design (LEED). The LEED™ rating system is based on a series of options that designers, builders and owners can use to incorporate sustainable green building and development practices into projects.

Innovation design credits under the LEED system for the South Transfer Station Expansion Project include the design of the facility by a LEED accredited professional (AP), the dramatic reduction of idling of commercial vehicle traffic as the result of installation of automated scales and a redesigned tipping floor arrangement that increased efficiency of material recovery operations.

The South Transfer Station Expansion Project incorporated the following LEED checklist items, although the county did not pursue official LEED certification:

- Site Selection (modification of an existing site rather than Greenfield development)
- Site Development Protect or Restore Habitat (restoration of native prairie area and removal of materials from wooded areas and planting of native grasses)
South Transfer Station Compliance Report
February 4, 2009
- The commercial top loading tunnel exit was clean.
- Tunnels 4 and 5 are open. Interiors are clean.

February 10, 2009
- The commercial top loading tunnel exit was clean.
- All drains throughout the facility were clean.

February 23, 2009
- The commercial top loading tunnel exit was clean.
- Areas inside and outside tunnels are clean.

The report concluded by noting that “operating conditions at both transfer stations were found to be in compliance with Ohio’s Transfer station Regulations during the month of February,” with the inspector’s added note, “I appreciate the courtesy of the staff during my visits.”

Collecting Compliance Kudos
The Dayton and Montgomery County Public Health Agency is responsible for periodic monitoring and inspection of the Montgomery County transfer stations to ensure compliance with Ohio state transfer station regulations as well as related public health ordinances. Public health inspectors are frequent (and welcome) visitors to the transfer stations. For example, in February 2009, Public Health visited both the South and North Transfer Stations four times, on February 4, 10, 18 and 23. Four monthly visits occurred in January 2009, a rate that is typical and constant.

During each visit, reports issued by the Public Health inspector feature repeated references to No compliance issues observed. It is a broken record that Montgomery County is happy to listen to.

A typical compliance report reads something like the excerpt from the February 2009 report above.
3. Program Planning

When Montgomery County realized around the turn of the 21st century that it needed to upgrade and modernize its solid waste facilities to improve environmental performance and create a better experience for facility users, it began by evaluating all its options before making the decision that led to the South Transfer Station Expansion Project.

The Montgomery County Solid Waste District does not work in a vacuum. Rather, the county has developed an inclusive planning process for solid waste programming that ensures that residents and businesses receive the triple bottom line of cost-efficient, environmentally responsible and long-term sustainable solid waste services. The county sponsors both a Solid Waste Management Policy Committee (SWMPC) and a Solid Waste Advisory Committee (SWAC) that include the mayors and managers from all incorporated areas of the county as well as industry and business representatives.

Considering All Options

A decade before the year 2000, Montgomery County took a long look at how to best manage waste. They began by evaluating both state and federal regulatory requirements and the operational and maintenance requirements of existing facilities. Initially, Montgomery County explored retrofitting the two existing plants with state-of-the-art incinerators with steam generation and air pollution control equipment to keep pace with increasingly stringent Clean Air Act requirements. Retrofit options for both plants were developed and presented to county management, along with other options, including conversion to a transfer-station-based operation.

The result of this detailed and lengthy process gave county leaders a solid understanding of modern solid waste practices so they could make the best decision for their community, based on factors that included environmental controls, cost, sustainability and the ability to serve the long-term solid waste needs for the area. The result, after much consideration and discussion, was a reasoned and sound decision in the mid-1990s to retrofit both the North and South Plants as transfer stations.

Replacing the Old with New As Life Goes On

As plans transformed into action to transition the old incinerators into the original transfer stations in the 1990s, it was imperative that the county keep solid waste services in full operation to meet the needs of residents and businesses. Construction of new facilities occurred in a way that would not interrupt ongoing operations. The designs for the new transfer stations allowed the contractor to stage construction to keep solid waste operations in full function as progress was made on the new facilities.

At the North Plant, the incinerator pit was covered and the existing tipping floor was expanded and covered to provide increased transfer operations. A third compactor was added to increase processing capacity and a new scale facility was installed with both inbound and outbound scales.

At both the North and South Plants, the old pollution control equipment and stacks were demolished and the back end of the incineration equipment was removed to clear the sites and make room for additional indoor storage areas. Permitting for solid waste operations and Title V air emission permits was completed prior to construction, which was completed by the end of 1997.

A New Century: Time to Expand

After years of successful operation, it was clear to Montgomery County officials that public demand for solid waste services was exceeding the capacity capabilities of the facilities, especially the South Plant, located in the
more heavily populated southern suburbs of Dayton. That led to the South Transfer Station Expansion Project, the culmination of another intensive planning process by the county.

The first three months of the design process for the transfer station expansion focused on a series of workshops in which key stakeholders met about every two weeks to discuss existing operations, what worked and what didn’t, and to define goals for a new facility. These sessions allowed open and free exchange of information among a variety of stakeholders, from county leaders to public users, where ideas on how to incorporate sustainable features while increasing operational and budgetary efficiencies could be tossed around.

The planning process included visits to other transfer stations so observations of operations, construction techniques and maintenance issues could be factored into discussions related to the planning effort. Vendors were invited to make presentations on key elements – such as scales, system software and hardware – to increase awareness of technological advancements in these areas. Site visits to scale operations in nearby areas allowed the planners an opportunity to interface with operating and maintenance personnel to share information on satisfaction levels with different vendors.

Sustainability discussions and brainstorming sessions were incorporated during the planning phase and throughout the design and construction phases. This process included evaluation of what materials and equipment could be salvaged and reused.

The result was a clear identification of needs and goals for solid waste programming and facility requirements, which included plans for future growth and waste stream changes. The programming effort allowed the group to develop consensus.

Planning Leads to Results

This detailed and inclusive planning process has served Montgomery County well, both in the 1990s with the transition from incineration to transfer station operation and more recently, with the upgrade of the South Transfer Station to a state-of-the-art facility that exceeds public expectations.

The result of the planning for the expansion project was a core group that agreed on goals and objectives, allowing the design process to be streamlined and a smooth transition from planning to detailed design and bid document development. Everyone involved was able to move forward with a clear vision.

To accommodate the major modifications incorporated as part of the expansion project, this multi-year effort was completed in three phases to eliminate system downtime.

- **Phase 1** involved construction of the new entrance road, scales and scalehouse, efforts that required changing traffic flow as users accessed the site from a different street. This was accomplished with clear signage placed strategically throughout the affected area.

- **Phase 2** included construction of the new transfer station building and installation of loadout scales in the existing tunnels, one tunnel at a time to allow the other to continue operations.

- **Phase 3** included switching operations from the old to the new facilities, demolition of the old scales and construction of the new administration building and additional public scale.

Throughout the construction phases of the expansion project, all major tie-ins were conducted after hours or during low throughput days. The result of this long-term, intense and inclusive planning process was that the South Transfer Station Expansion Project was completed on time, and met the county’s budget and with no system outages.
4. Performance, Economics and Cost Effectiveness

The annual 2008 newsletter for the Montgomery County Solid Waste District begins with this statement:

*Year in and year out Montgomery County strives to continually improve its services to our members and our community and 2008 was no exception.*

**Year-Round Service with Sound Finances**

Because the services offered by the transfer stations operated by the Montgomery County Solid Waste District require access to facilities, the District has developed a schedule that ensures residents can come to one or both of the transfer sites 312 days a year. Both transfer stations are closed on Christmas Day and Sundays. Otherwise, the facilities are open six days a week with other major holidays, such as Thanksgiving, featuring one station closed and the other open to ensure services are available to those who need them when they need them.

Tipping fees at both transfer stations have remained unchanged since 2000 at $36/ton – which is very competitive for the area. Montgomery County will retire its solid-waste-related debt in 2010, resulting in a savings of about $6.5 million per year. Cash balances for the Solid Waste District as of March 2009 were at $19 million, which is much better than many solid waste agencies. This cash balance gives the county the ability to provide planning and has covered any shortfalls for unexpected expenses (like higher fuel costs) without raising the tip fee. Once the debt is retired next year the facility will be generating solid revenues for the county.

At the beginning of 2009, Montgomery County created a Solid Waste District Financial Subcommittee responsible for reviewing solid waste infrastructure, including recycling technologies, with the goal to ensure a sustainable waste management system to carry Montgomery County through the year 2040.

**Regional Cooperation Leads to Major Savings**

Perhaps one of the most noteworthy accomplishments was a first-of-its-kind in Ohio – a contract for hauling and disposal of waste that joined the needs of two counties in a demonstration of regional cooperation for the benefit of all. The five-year contract with Rumpke Waste of Cincinnati to serve the needs of both Montgomery and Miami Counties will allow the counties to share about $1.6 million in savings over the contract life. The contract includes two five-year options for renewal at the sole discretion of the counties. This allows Montgomery County to benchmark known disposal costs against other solid waste disposal technologies.

Solid waste will be transferred from the Montgomery County North and South Transfer Stations and similar facilities in Miami County to Rumpke-owned facilities in Brown and Hamilton Counties, Ohio. The new contract took effect on August 1, 2008, with 2,000 tons per day of Montgomery County waste now sent to Rumpke landfills.

Additional reliable revenue sources for Montgomery County are the Transload Agreements in place with three major waste haulers, including Rumpke, Waste Management and Republic. The agreements allow these haulers to unload waste at the South Transfer Station, where the county processes the waste on the tipping floor and loads it into the haulers trailers. The county fee for this service is $5.50 per ton.

This transload system maximizes Montgomery County’s utilization of the transfer stations while contributing more than $1 million dollars of revenue in 2008. With the completion of the South Transfer Station Expansion Project, the county can process this waste without requiring additional equipment or manpower, which allows the majority of the transload revenue to fall to the bottom line.
McMRF at Your Service

Beyond providing users with two transfer stations to meet their solid waste needs, the Montgomery County Solid Waste District has created a unique facility to strengthen the local embrace of the “Three Rs” of solid waste management: Reduce, Reuse and Recycle. Known as the Montgomery County Material Reuse Facility – or more commonly simply called McMRF – the facility is co-located with the South Transfer Station.

The McMRF promotes the reuse, rather than disposal, of usable building materials, art supplies and office furniture and supplies. Items that might otherwise be thrown away by businesses and individuals are collected at the McMRF, where they can be redirected to non-profit organizations such as low-income housing agencies, school art programs, performing and visual art organization or individual artists involved in public project and local government agencies.

The McMRF offers the following advantages as an alternative to disposal:

- Helps businesses and individuals maintain a clean environment, save space in landfills and help non-profits all at once
- Frees up storage space by donating excess, surplus and over-run items to McMRF
- Used items can be used for multiple purposes, including school art programs and as stage props and for set construction in local dramatic productions.

To ensure the highest level of reuse of donated items, McMRF staff screen materials before acceptance and donors are given receipts for their items. McMRF staff will even arrange to pick up large donations. The list of materials that can be donated to McMRF includes (but is definitely not limited to) the following:

- Construction materials (nuts, bolts, nails, wire, plaster, dry wall, lumber, windows, doors, cabinets, stairs, railings, sinks, paint, wallpaper and many others)
- Art supplies (canvas, brushes, mats, frames, glue, clay, cardboard and others)
- Tools (hand tools, paint rollers, pans, liners, etc.)
- Office furniture (chairs, tables, cabinets, useable computers, desks, shelves, etc.)
- Miscellaneous (manufacturing scraps, fabric, string, leather, metal fragments, mirrors, vinyl, etc.)

The McMRF promotes reuse rather than disposal, saving space in landfills and helping non-profits at the same time. Items such as the office furniture pictured above can be given to low-income housing agencies for reuse.
and efficiently from the scales through the transfer stations. With the loadout scales located in the tunnel and the increased size of the tipping floor, many types of materials can be easily processed at the expanded facility. From municipal solid waste to yard waste, tires and white goods, there is ample space to accommodate daily requirements.

The expansion project allows the county to operate a comprehensive, clean, efficient and easy-to-use facility with most drop-offs taking place inside site buildings, which controls noise and odors. The combination of ease of use and co-location with household hazardous materials and recycling drop-off facilities and the McMRF are helping increase diversion of materials from area landfills.

**DAT’s Right: The Benefits of Automated Scales**

In addition to the benefits brought by the expansion of the South Transfer Station to all users, commercial users experienced greater ease of use with the installation of Driver Assisted Terminals (DAT) at both the South and North Transfer Stations. Also known as automated scales, the DAT systems allows commercial haul trucks to pass over the scales and have data recorded via a radio frequency tag mounted on each vehicle. The data is used to generate an automated disposal ticket.

The automated scale process for commercial trucks offers greater accuracy and expediency of use. Upon entering the inbound scale, the Radio Frequency Tag (RFID Tag) on the side of the truck is automatically registered and each truck driver is asked to answer two questions: the origin of the material and the type of material (municipal solid waste, yard waste or tires). Once those questions are answered, the DAT system gives the driver a green light to proceed into the transfer station. When exiting over the outbound scale, again the RFID tag registers the vehicle and an automated ticket prints for the driver’s records. The automated system

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**2008 Materials Diverted (tons)**

- McMRF: 7,167 tons
- White Goods: 64 tons
- Paint & HHW: 605 tons
- Tires: 381 tons
- Recyclables Drop off: 789 tons
- Batteries: 497 tons
- Recycle Liquids: 196 tons
- Yard Waste: 64 tons
- Electronic Waste: 402 tons

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The expansion project at the South Transfer Station allows the Montgomery County Solid Waste district to process significantly more waste each day than before the facility upgrade, from 1,900 tons-per-day peak capability prior to the upgrade to 6,000 ton-per-day peak capacity today.

More vehicles and more types of vehicles can be processed through the facility each day, moving safely through the transfer stations. With the loadout scales located in the tunnel and the increased size of the tipping floor, many types of materials can be easily processed at the expanded facility. From municipal solid waste to yard waste, tires and white goods, there is ample space to accommodate daily requirements.

**The Advantages of New at the South Transfer Station**

The expansion project at the South Transfer Station allows the Montgomery County Solid Waste district to process significantly more waste each day than before the facility upgrade, from 1,900 tons-per-day peak capability prior to the upgrade to 6,000 ton-per-day peak capacity today.

More vehicles and more types of vehicles can be processed through the facility each day, moving safely through the transfer stations.
saves time and resources, and there is a staff member available to provide assistance in the event of system disruption or user confusion or error.

A brief list of the advantages offered by the automated DAT system includes:

- Automation of an average of more than 250 transactions per day at the North and South Transfer Stations, freeing up the scale operator to focus on customer service with public customers.
- Transaction information gathered automatically via the radio frequency identification tags is used to bill customers.
- Only one scale operator is needed for early morning and late evening hours, allowing staffing to focus on the busier hours of 9 a.m. to 5 p.m.
- Automation eliminates operator error.
- The radio frequency tags require no maintenance and last for as long as ten years. Of 500 tags installed, only 22 required replacement after four years of constant use.

**Fostering Customer Service**

The desire to reduce waste has gone mainstream in the United States, but getting people to follow the three Rs (Reduce, Reuse and Recycle) depends a lot on whether it’s as easy to do the Three Rs as it is to do what we’ll call the Three Ts: Toss and Throw Things. Montgomery County has put in place a solid waste management system based on transfer stations strategically located to meet the needs of all county residents and businesses and that offer modern amenities that make dealing with, disposing of and recycling municipal solid waste easy to do.

Fostering Customer Service

The Montgomery County Solid Waste District doesn’t just guess at what its customers want. To facilitate the highest possible level of customer service, the District administers an annual survey to gain feedback from its customers. There is also a spotter available on both the commercial and public sides of the South Transfer Station, available to answer questions and offer assistance as needed.

Steps taken at the Montgomery County Transfer Stations to make it easy to drop off household hazardous waste provide residents with another incentive to keep with the Three Rs. Twice a week between 8 a.m. and 2 p.m. – Tuesday at the North Transfer Station and Saturday at the South Transfer Station – residents may drop off household hazardous wastes and other recyclables like paper, plastics, glass and cans for free disposal. In 2008, Montgomery County collected more than 762,000 pounds of household hazardous waste, ensuring their proper disposal rather than release into local waterways or landfills where they could become problematic over time.
More than any other factor, the reduction in wait time for both public and commercial customers after completion of the South Transfer Station Expansion Project has simplified the experience for public users. While waits at the busiest times have dropped dramatically, from the occasional wait of up to an hour in queue to access disposal areas, cycle time (the time to enter, unload and exit the facility) for both public and commercial users has dropped, as indicated in the table below.

<table>
<thead>
<tr>
<th>System</th>
<th>Facility Cycle Time</th>
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<tbody>
<tr>
<td>Old Public Scales &amp; Facility</td>
<td>22.17 minutes</td>
</tr>
<tr>
<td>New Public Scales &amp; New Public Facility</td>
<td>11.70 minutes</td>
</tr>
<tr>
<td>Old Commercial Scales</td>
<td>15.19 minutes</td>
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<tr>
<td>New Commercial Scales</td>
<td>9.78 minutes</td>
</tr>
</tbody>
</table>

**Cost Effectiveness**

The construction costs for the new entrance, public facility and administration building plus the county’s contribution to the city for the entrance road, design, permitting, software and furniture costs was $17.9 million. This was a little higher than originally estimated because at the time material prices were still increasing rapidly, especially for concrete, asphalt and steel – which came in higher than anticipated. In addition, soils contaminated with ash were discovered during the excavation of the storm line, which the county removed and disposed properly. For the extensive sitework and modifications to the existing buildings, and reuse of canopies and materials this was a cost-effective project that has paid dividends in improving the operating efficiencies and user experience.
5. Utilization of Equipment/Systems and Technologies

Montgomery County Solid Waste District equips the South Transfer Station with all necessary and up-to-date equipment to ensure smooth operations, without interruption, 312 days a year.

For efficient operations, front-end loaders mix and compact waste materials on the tipping floor to increase density, which helps the tractor trailers reach capacity quickly as the loads are pushed in and tamping cranes level the loads to ensure that no waste is sticking out. The scales under the load out hopper weigh the front vehicle axles separately from the rear axles, providing accurate and immediate feedback on how the trailer is being loaded, whether it is off balance and within the roadway legal capacity. This has been a major improvement in efficiencies and cost savings as prior to having these scales, many loads were overweight or underweight which was a safety issue and added costs for hauling light trailers. The county estimates these scales paid for themselves within one year.

The new scale software system also allows Montgomery County to track loads to the landfill and back-check against the landfill records. The county was able to determine the landfill was registering heavier loads due to the tare weights they were using. This resulted in higher costs for disposal than what was actually in the trailer. The county worked with the landfill to resolve these differences. The new loadout scale system has improved efficiencies by maximizing loads and improving weight accuracy at the landfill.
In addition to the tamping cranes pictured above, the county owns five wheeled excavators, six loaders and 16 tractor trailers.

- **Wheeled Excavators (Model Number 315).** These custom high-rise cab excavators allow enhanced visibility when placing trash into trailers below. (Five available)

- **Loaders (Model 624J).** The loaders push waste from the tipping floor to the tunnel openings and are equipped with rubber edges made from recycled tires. (Six available)

- **Tractor Trailers.** The county owns and operates 12 tractor trailers, to daily transport waste from the transfer station to the contracted landfill, 80 miles away. (A total of 16 tractor trailers are available.) Plus about 50 loads a day are per Contractor Tractor Trailer Rigs.

- **Skid Steer.** Used in the public unloading area, this smaller piece of equipment can maneuver safely in the area as the public unloads

- **Roll-off Truck.** Used to transport recycling boxes

- **Street Sweeper.** Used to keep the facility and surrounding roads free of debris

- **Mad Vac.** Used to clean up debris in tunnel areas
6. Worker Health & Safety

Attention to worker health and safety is a paramount concern for all staff of the Montgomery County Solid Waste District. All employees participate in new employee orientation to ensure they understand the mission, goals and responsibilities of being a staff member for the District. Among the many health and safety programs in place, the District sponsors monthly “training topics” as a required event for all employees. Topics are based on issues appropriate to the season or conditions and cover areas such as warm and cold weather safety, back and lifting safety and safety around equipment.

Additional training is offered to employees based on their hazard exposure, including Red Cross CPR/AED and First Aid, bloodborne pathogens, forklift certification, electrical and lock out/tag out, defensive driving, confined spaces and others.

Each supervisor is held responsible for maintaining a safe work area and work site, with daily walk throughout of their assigned areas required. Injuries, accidents and near misses are reported within 24 hours and entered into a risk management database, which can report trends and identify areas that need additional attention for training. In 2008, the District had four recordable incidents with a workforce of 80 employees.

The District sponsors a safety committee that meets monthly. The committee provides a sounding board for employee concerns and issues and provides an open venue for the safety officer to pass along key topics for discussion. Being a member of the safety committee empowers employees to become safety experts, with encouragement to identify hazards and ways to remediate them as quickly as possible, but within 30 days at the most. Annual safety audits include a walk through of all areas by safety committee members to search for hazards.
7. Public Acceptance, Appearance and Aesthetics

Spreading the word about the services available at the South Transfer Station is key to keeping the public aware of the latest improvements in services and facilities. The Montgomery County Solid Waste District provides a variety of programs focused on the Three Rs, waste reduction and litter prevention for community organizations, schools and businesses throughout the county.

The District is an affiliate of Keep America Beautiful and participates in the annual Great American Cleanup, the largest organized volunteer litter cleanup and community involvement program in the United States. In 2008, more than 5,000 volunteers gathered across Montgomery County to spend more than 20,000 hours removing nearly 670,000 pounds of litter from neighborhood streets, parks, playgrounds, vacant lots and river banks. The volunteers also collected and separated 14,000 pounds of recyclables and planted 541 trees.

A Recycle Rally held during the 2007-2008 school year for Montgomery County schools brought in 394,000 pounds of recyclables and earned more than $23,000 for the schools.

A new conference room is available for committee meetings and events and has become a popular meeting location. The county provides educational sessions at the transfer station, where students work in a room with a view of the tipping floor to gain a better understanding of how much waste their community produces.

It’s Not Just Trash, It’s T.R.A.S.H.!

Perhaps the greatest success story of the multiple outreach efforts conducted year-round by the Montgomery County Solid Waste District is the T.R.A.S.H. program, which was selected as a 2008 award-winning program by the National Association of Counties. The District, in collaboration with the Dayton-based Boonshoft Museum of Discovery, created the Taking Responsible Action at School and Home program, which provides in-classroom, hands-on activities to demonstrate the Three Rs and their effect on the planet and the environment.

Students participate in projects ranging from writing poetry about waste and recycling and creating art projects from materials found at the Montgomery County McMRF facility. In 2008, the T.R.A.S.H. program visited 78 classrooms and reached more than 1,800 students.

Also, in 2004, Montgomery County won the SWANA Gold Public Education Excellence Award for their Solid Waste and Recycling Exhibit at the local children’s museum, the Boonshoft Museum of Discovery in Dayton, Ohio. Education is long-term commitment for Montgomery County.

Clean and Open

All employees of the Solid Waste District work together to maintain sites that are clean and free of litter and debris and, ultimately, pleasant places for users to experience. The street sweeper runs through the site frequently to keep the roads clean. Maintenance facilities at the South Transfer Station are equipped with a full wash bay to keep county vehicles clean.

The website for the Montgomery County Solid Waste District is easy to navigate, with information on all public programs, including easy-to-read maps to the South and North Transfer Stations, hours of operation and notification of special events and programs, such as a recent TV recycling program in conjunction with the switch to all digital programming.

The South Transfer Station expansion project has made the facility a good neighbor for the long term.
SOUTH PLANT
OVERALL PROJECT

Tipping & Hopper Rest.  May 05
Access Roads,
Concrete Lane Extension,
Recycling Canopy  Oct 05
Scale House-
Commercial Scales  Dec 05
Fuel Canopy  Apr 06
Tipping Floor-
Public Facility  Apr 06
Administration-
Expansion  Jan 07
New Public Scale  May 07

Montgomery County Public Outreach Materials

Montgomery County Solid Waste District

Resources Guide

Keep Montgomery County Beautiful

Home Composting

Recycling Nature's Way

FREE DAILY SERVICES
HOUSEHOLD PLASTICS RECYCLING PROGRAM
HOUSEHOLD HAZARDOUS WASTE DISPOSAL
SPECIAL AMNESTY COLLECTIONS
DAILY FEES-BASED SERVICES
OTHER FREE PROGRAMS

look inside

look inside

look inside
Montgomery County Public Outreach Materials
Recycled Sculpture Contest

Turning trash into art is just one way the Montgomery County Division of Solid Waste Management helps show students from local schools that landfills are not the only option for used materials. This collage shows a compilation of original student sculptures created for a Recycled Sculpture Contest in 2008.

Showing students what happens to waste at the South Transfer Station, then inspiring them to transform waste materials into art, is one of many ways the Division of Solid Waste Management is doing its part to instill the benefits of the Three Rs (Reduce, Reuse and Recycle) into a new generation.
Student Poetry Contest

The Montgomery County Division of Solid Waste Management sponsored a contest for students to write poetry to express their feelings about waste, the environment and the need to be responsible about their relationship with trash. This page depicts a sampling of the results of this popular contest.

**2008 KEEP MONTGOMERY COUNTY BEAUTIFUL POETRY CONTEST WINNERS**

**PLANT PRIDE... NOT LITTER**

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**The Lucky Tire**

By Mark Kelsey

Groton Kennedy Elementary

5th Grade

I am a tire floating down a river.

One day I washed up on a shore.

That same day someone found me.

I was covered in mud.

I had a hole in me.

They took me to a factory and cut me up.

Then they put me on a playground.

I feel way better and I am helping instead of polluting.

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**Just Do It**

By Laura Kosik

Fairmont High School

High School

I know it’s right,

I really should,

I can do it...

If only everyone could

Not on the ground,

Not in the street,

Shoot for the can,

Come on, let's keep it neat.

It's just a cup,

Then a bag a day,

It only gets worse,

So just throw it away!

Do it now,

For everyone's sake.

Get a trash bag,

And give the world a break.