

# Curbside Recycling Container Options & Services

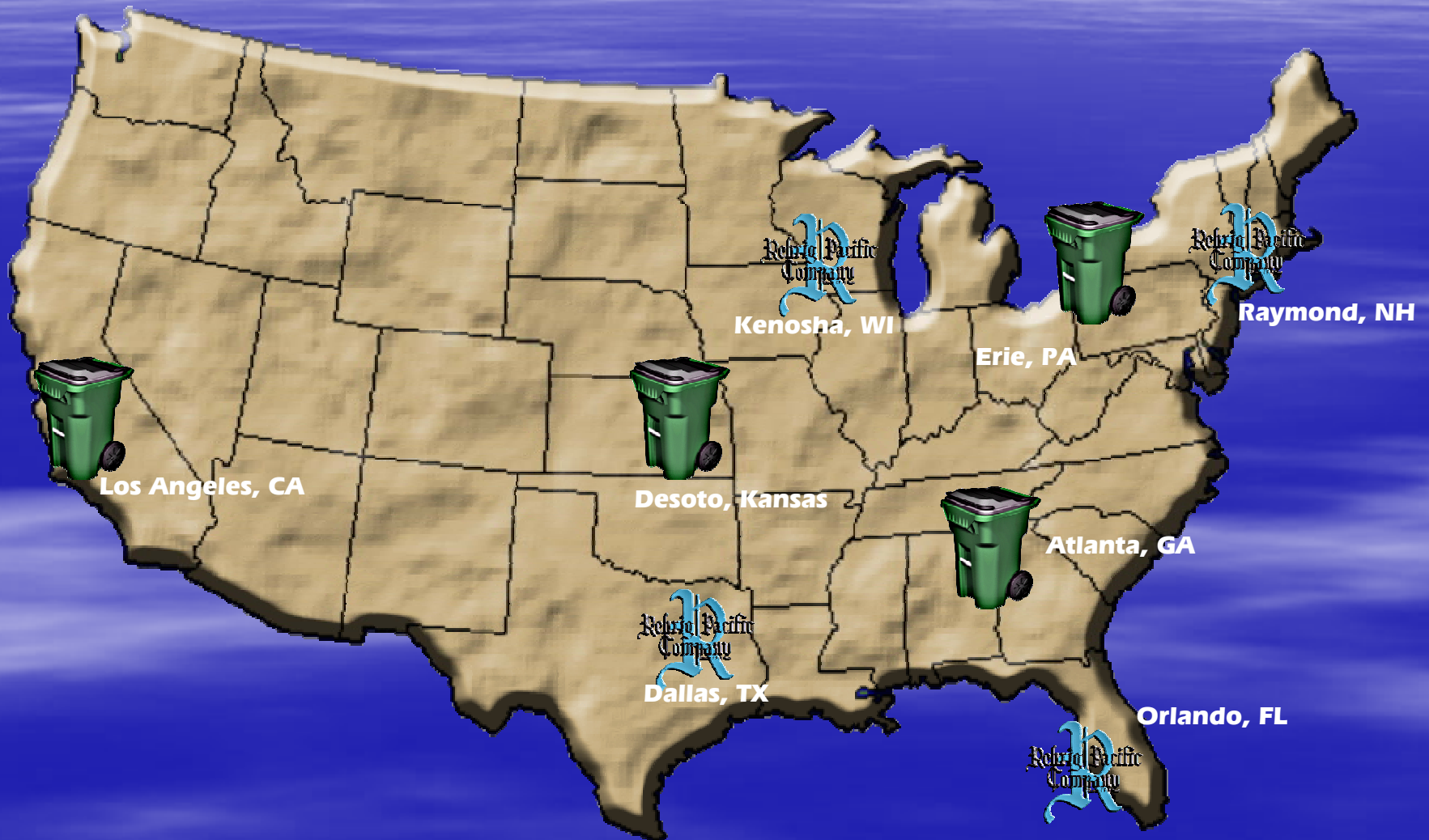


Rehrig Pacific Company

# Rehrig Pacific History

- American and family-owned company founded in 1913
- Over 40-years experience in the design and production of quality engineered plastic containers (Injection Molding since 1965)
- Leader in the Recycling Container Industry- over 30 Million Recycling Bins and 19 Million Rollout Carts on the street
- Over 60 injection molding machines producing products for various industries
- Supplier of automated carts and recycling bins for several of the country's elite solid waste and recycling programs:
  - Reference list available upon request

# Rehrig Pacific Plant Locations



# Evolution of Curbside Recycling

- Drop-off Programs/Recycling Centers
- Curbside recycling programs to make recycling more convenient.
  - Source Separated
  - Dual Stream
  - Single Stream

# Source Separated Recycling

## Type of Container used:

Multiple bin system, set out loose at curb, plastic or paper bag, etc.

- First generation of curbside collection
- Mid 1980's
- Resident separates various commodities
- Trucks have multiple compartments
- Processing is simplistic and inexpensive



# Dual Stream Recycling

## Type of Container used:

Split cart, 18-gallon Bins, Split Bin, Blue Bag

- 2<sup>nd</sup> Generation of Curbside Collection
- Early 1990's
- Compartmentalized trucks and bins (and carts)
- Fiber (1) and mixed glass and cans (2)



# Dual Stream Recycling Pros and Cons

## Pros:

- Relatively low contamination of material
- Ability to Semi-automate collection (dual compartment truck)
- Improved collection costs versus sole separation
- Improved tonnage versus sole separation

## Cons:

- Sorting materials remains a requirement
- Split carts and/or 2 bins can limit volume potential
- Capital Intensive (Split compartment trucks/split compaction)
- Difficult to automate

# Single Stream Recycling

- 3<sup>rd</sup> Generation of curbside collection
- Containerized collection system
- Automated or semi-automated
- All recyclables collected in one container (cart)





# Single Stream Recycling

## Pros:

- Increased participation (easy)
- Increased volume (larger container)
- **Increased container size reduces overflow of recyclables into waste stream**
- Low collection costs (one man, one container)
- Reduced collection frequency (every other week)
- Standardization of trucks (refuse and recycling)
- Less injuries (workman's compensation)
- Less education

## Cons:

- Contamination
- Capital Intensive (carts and processing)
- Attrition of old recycling trucks

# Container Options for Single Stream Recycling

- Curbside Recycling Bins 14 & 18 Gallon
  - Manual Collection Only, not typical for Single Stream
- Round Recycling Bins 25 & 32 Gallon
  - Manual or Fully Automated Collection
- Rollout Recycling Carts 35, 65 & 95 Gallon
  - Semi or Fully Automated Collection

# Curbside Recycling Bins 14 & 18 Gallon



## ■ Pro's:

- Inexpensive to implement
- No limitations on collection vehicles
- Suitable for apartment or housing with limited space

## ■ Con's:

- Limitations on volume
- Promotes overflow of recyclables into trash
- Residents must carry to curb



# Round Recycling Bins

## 25 & 32 Gallon

- Pro's:

- More Capacity than your traditional bin, less recyclables getting thrown away
- Stands upright, with handles on top and bottom, EASY TO LIFT!
- Can be picked up manually or with fully automated truck
- Low cost to implement



- Con's:

- No wheels
- Less capacity than a cart!
- Resident has to lift or drag container to curb

# Rollout Recycling Carts

## 35, 65 & 95 Gallon



# Pro's & Con's of Rollout Carts for Curbside Recycling

- Pro's:
- User friendly, roll to curb
- Convenient
- Largest Capacity Available for Recycling
- Advanced Branding & Instructions
- Limited or no sorting required
- Statistics have shown higher participation & diversion rates with larger containers
- Con's:
- Higher upfront cost to implement
- Collection trucks must have lifting equipment



# Other Advantages of Using Rollout Carts for Recycling!

- Standard logo branding on the cart and/or lid
- Special Branding Capabilities, IML & Heat Transfer
  - Provides clear instructions on what materials are accepted – great for constant education!!!
  - Provides education and promotes recycling program



# Organic & Green Waste Carts

- **Organic & Green Waste Carts**
- 35/65/95 Gallon Roll-out Carts modified with optional vents and/or hinged bottom, including:
  - Hooded vent on lid
  - Side vented lids
  - Vents in cart body
  - Hinged false bottom
- 2-gallon Kitchen Buckets for food waste collection





# Additional products available



- Nuwave Commercial Container
- 2,3,4 and 6 Yard Capacities.
- All plastic.
- Never rusts or needs repainting.
- Weighs 30% less than comparable size steel container.

# Additional products available (cont.)



- 60 and 75-gallon Capacities
- Optional Gravity-Lock Lid for fully-automated applications
- Recessed Area for Branding or Labels.
- Domed Lid with 4-way Entry
- Weighted Guides.



# Other Services offered by Rehrig Pacific

- Participation tracking using RFID / Bar Code Technology
- Development of Educational Materials
- Container Assembly & Distribution
- Container Management
- Container “Buy Back” Program

# RFID Technology & Bar Code Scanners

- Rehrig Pacific can develop programs that track recycling participation by using RFID Tags and Bar Codes
- This information is used to develop targeted education areas and outreach programs
- Provide incentives or rewards to program participants
- Perform surveys to find out why people do or don't recycle each week
- Develop more efficient collection routes



# Educational Assistance

- **Program introduction**
  - Letters from Mayor
  - Collection Calendars
  - Articles for newspapers
- **Education**
  - Linking school programs
  - Promotional contests
  - Creating a buzz
  - Photo opts for council
- **Materials**
  - Literature to residents before, during, and after program rollout
  - Distribution of literature
- **Achieving Buy In**
  - Hotlines for questions
  - Provide FAQs
  - Expectations from experience
  - Media management
- **Sustaining Buy In**
  - Track participation
  - Contamination and non compliance
  - Real time data reporting
  - Data analysis and tips for improvement.

# Assembly & Distribution

- **Assembly and Distribution Services:**
  - Performed and managed internally by Rehrig Pacific (no sub-contractors)
  - Company personnel and company-owned equipment
  - Use of City property as staging area for assembly
  - Carts assembled at staging areas throughout the city
  - Carts delivered to the resident on flat-bed trucks
  - Multiple delivery crews
  - Work 6-days a week
  - Average of 1200-1500 carts delivered per day
  - Recording of Serial Numbers or Bar Codes available

# Assembly and Distribution



# Container Management

- Total asset/inventory management
- Provide inventory - space and parts
- Handle all container issues:
  - Supply
  - Delivery
  - Pickup, Repair and Maintenance





# Benefits to Outsourcing Container Management

- Relief of cart service duties
- Outsource cart service duties - savings in equipment and personnel
- Eliminates the need for cart inventory and inventory management
- Eliminates warranty claims and warranty management
- Long term program leads to consistency of cart style, components and service



# Container Buy Back

- Commitment to closing the loop!
- 100% recyclable containers (including steel)
- Credit for plastic resin containers returned to RPC
- In house and partner grinding and extruding



# Results of Moving to Larger Containers for Recycling

- Single Stream Programs:
  - City of Los Angeles, CA
  - Anne Arundel County, MD
  - Madison, WI
  - SPSA, Norfolk, VA
- Dual Stream Programs:
  - Warwick, RI \*Three Carts
  - Montgomery County, MD
    - \*Carts & Bins



# LA's Need to Divert More



- State mandate to divert 50% of waste by 2000
- City mandate to divert 70% by 2020
- 1991 - implemented dual stream collection with 14-gallon bins
- Less than expected participation and diversion rates
- General fund burden of refuse and recycling collections

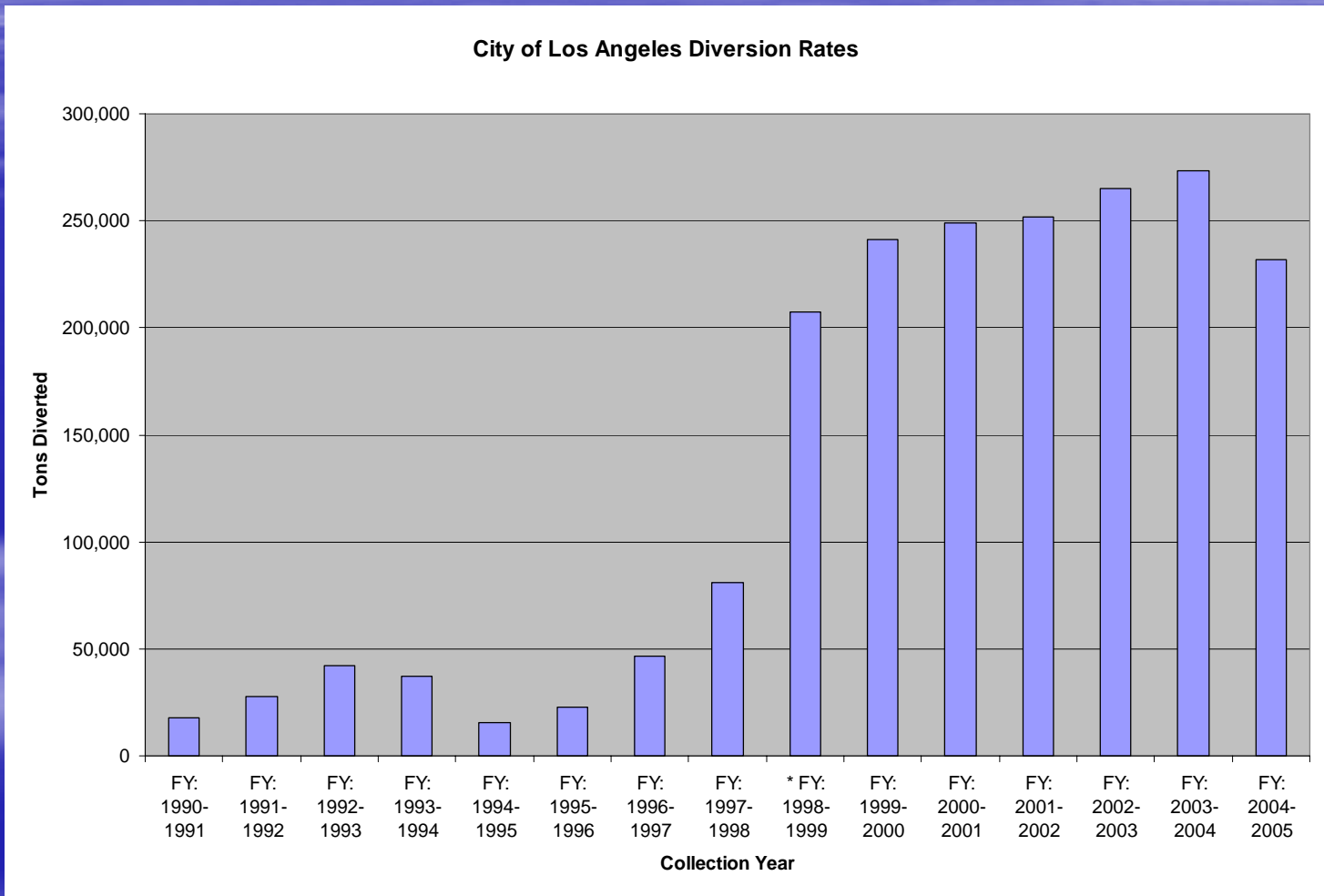
# A New Direction for Los Angeles

- City converts from manual to automated collection of recyclables in 1998
- Use 35, 65 & 95-gallon carts for refuse, recycling and yard waste
- Delivered 1.4 million carts for recyclables and yard waste
- Fund capital costs with a SW equipment charge on city utility bills



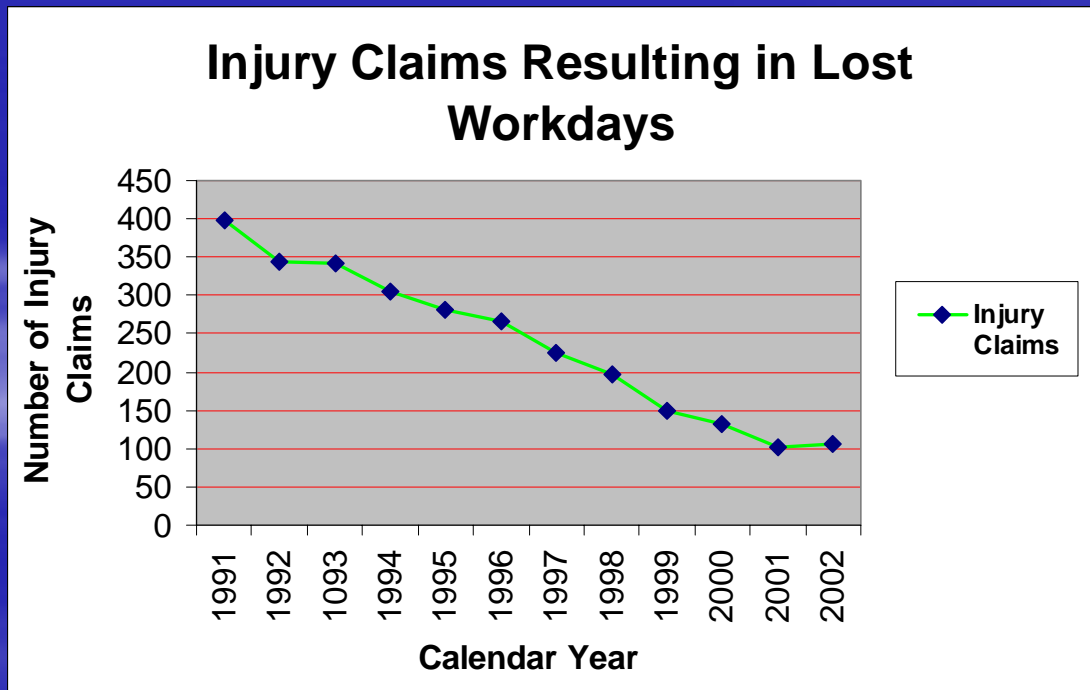
# Los Angeles

## Historical Diversion Rates



# Los Angeles Collection Efficiencies

- Route sizes went from 250 hpd to 800 hpd
- Tonnage per truck average 10-13 tons of recyclables per day!!!
- Reduced expenses resulting in a savings of approximately \$13.5 million
- Lost days due to injury greatly decreased



# Anne Arundel County, MD

- Brand new program – voluntary (customer pick up of containers)
- Switch from 18-gallon to 32-gallon for collection
- High demand from residents – over 40,000 larger containers in use to date in one year alone!



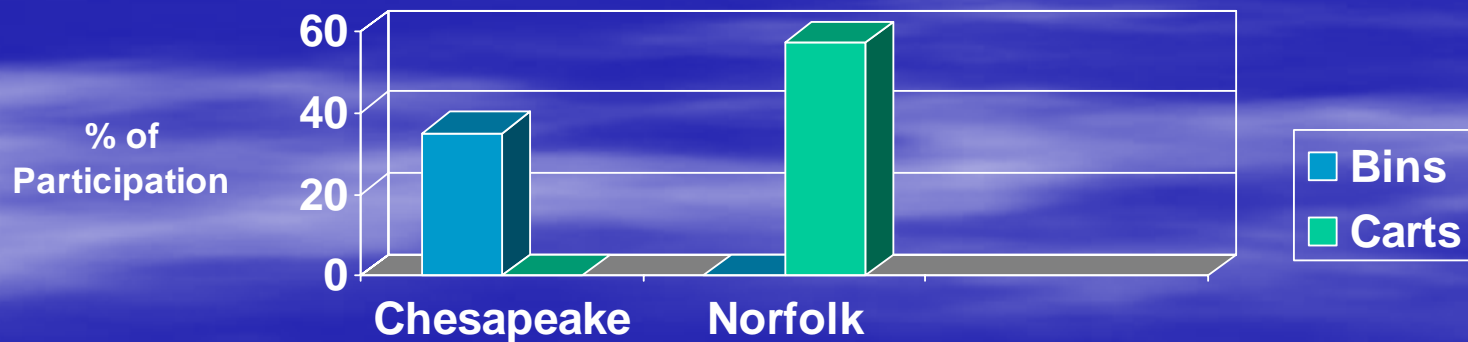
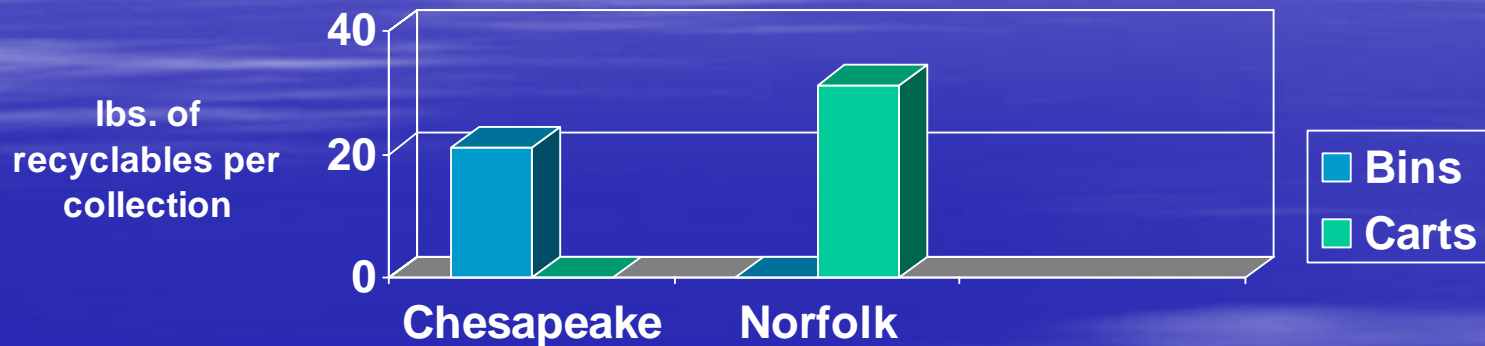


# Highlights from Madison, WI Program

- Volume increase to 108 tons per week (34% jump!!)
- Expansion of material recycled in the program
  - junk mail, computer paper, boxboard (cereal, cracker, and other food boxes), milk and juice cartons, ascetic packages (juice boxes and soy milk containers, and aluminum foil pans.
- Reduction of 15,000 tons of greenhouse gases = removing 8,700 cars from the road
- Reduced landfill waste by 97 tons/week (a 12% cut)
- Landfill fees reduced by over \$117,000.
- Total first year cost savings of \$350,000!!



# Southeastern Public Service Authority (SPSA)



# Warwick, RI's Need to Divert More



- Rising disposal costs
- Less than expected participation and diversion rates from existing program
- Political Pressure to improve diversion and participation numbers
- General Fund burden of refuse and recycling collections

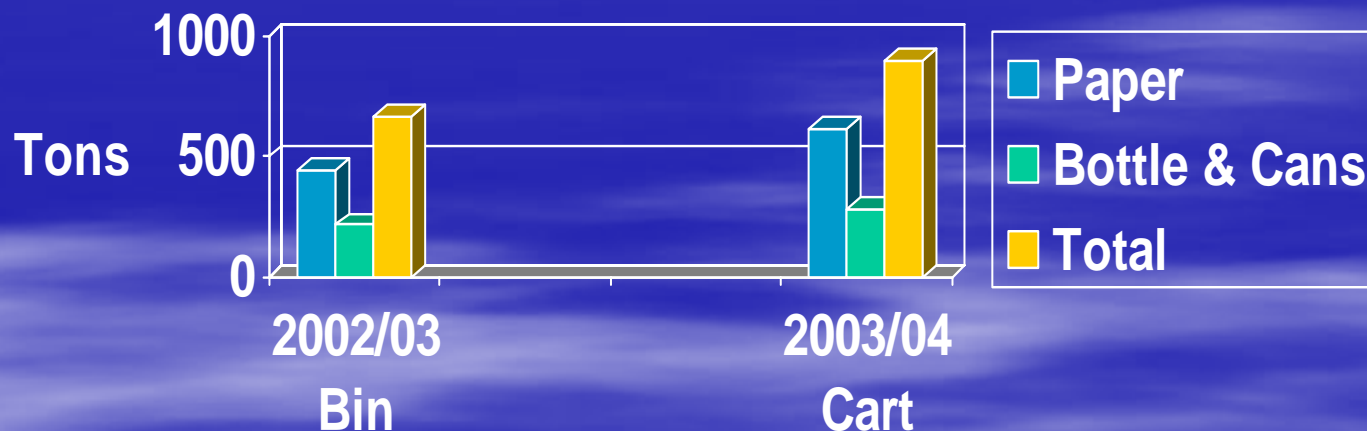
# A New Direction for Warwick, RI

- Implement automated collection for refuse and a dual stream recycling program.
- Use three carts
  - refuse
  - paper
  - bottles and cans
- Fund capital costs through a refuse collection charges and disposal savings



# Recycling Benefits for Warwick

- More than doubled weekly participation
- Increased paper volume 38.01% by implementing a cart collection program



# Montgomery County, MD Needed To..



- Improve Capture Rate
- Reduce Litter
- Make Life Easier
- Target valuable waste paper (80-85% of the weight of recyclables is paper)

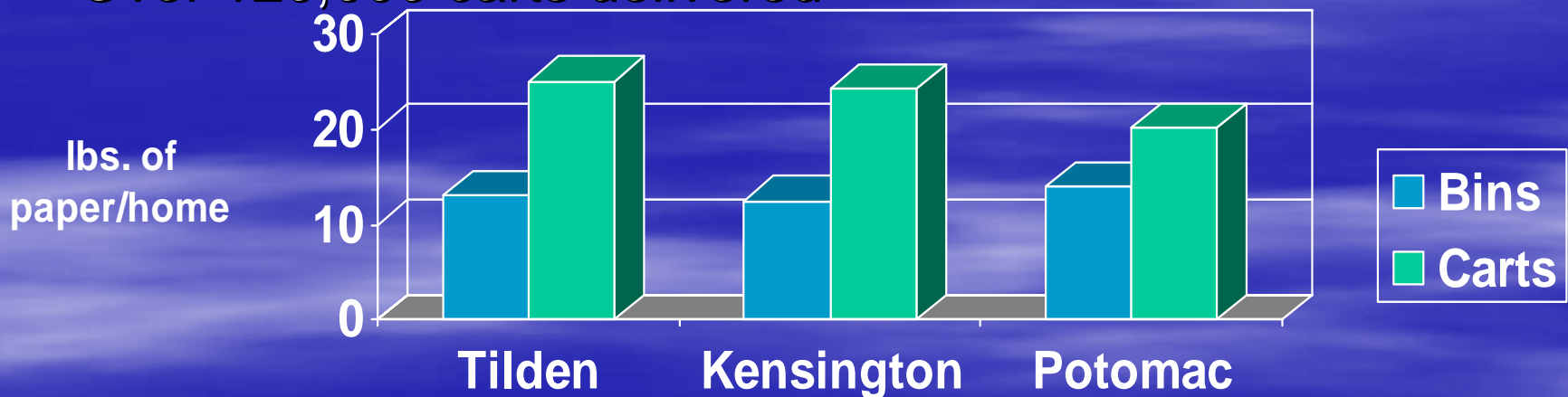
# Montgomery County's First Step

- Implemented a pilot automated collection program for mixed paper recycling program in 2000
- Provide residents with a 65-gallon cart for mixed paper



# Montgomery County Results

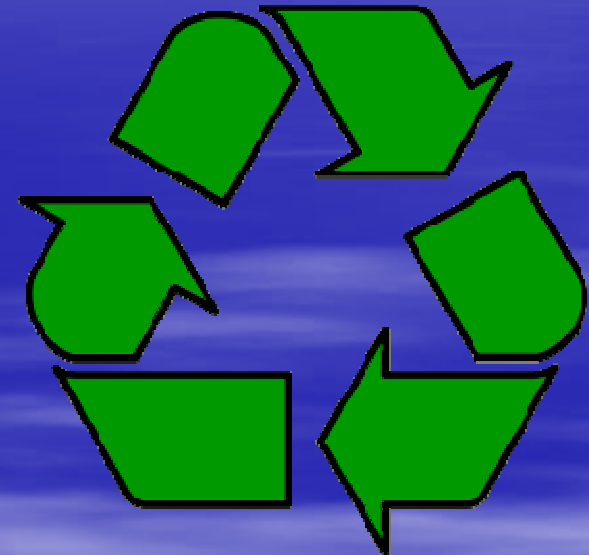
- Montgomery County, MD- Increased paper volume 100% in two separate areas during cart collection pilot program
- Success of pilot resulted in the countywide program expansion
- Over 120,000 carts delivered





# What has Rehrig learned...

- 3 Keys to a Successful Recycling Program
  - Ease and convenience
  - Larger, easy to use containers
  - Strong education program
- Higher participation and greater diversion rates mean less landfill space used and more money saved!!
- More recycling = cleaner environment



**Thank you for your time!**

**Andrew White &  
Dustin DePanfilis**

