

Curbside Recycling
in the St. Louis – Jefferson
Solid Waste Management District

Curbside Recycling Set-Out (Participation) Study Phase I

- **Set-out Rate vs. Participation Rate**
- **Conducted from April 04 – April 05**
- **16 communities surveyed**
- **3 consecutive weeks in each community**
- **46,546 households observed**
- **15,900 Households Recycled at the Curb**
- **Funded by the St. Louis-Jefferson Solid Waste Management District**

Communities Surveyed

St. Charles County

| ■ <u>Community</u> | <u>Pop.</u> | <u>MHI</u> | <u>Provider</u> |
|--------------------|-------------|------------|-----------------|
| ■ O'fallon | 46,169 | \$60,179 | O'Fallon |
| ■ St. Charles | 60,321 | \$47,782 | Midwest |
| ■ Wentzville | 6,896 | \$47,232 | Hunt Bros. |

Jefferson County

| ■ <u>Community</u> | <u>Pop.</u> | <u>MHI</u> | <u>Provider</u> |
|--------------------|-------------|------------|-----------------|
| ■ Arnold | 19,965 | \$47,188 | Onyx |
| ■ Festus | 9,660 | \$36,687 | WMI |

North St. Louis County

| ■ <u>Community</u> | <u>Pop.</u> | <u>MHI</u> | <u>Provider</u> |
|---------------------------|--------------------|-------------------|------------------------|
| ■ Bellefontaine | 11,271 | \$40,007 | WMI |
| ■ Ferguson | 22,406 | \$35,647 | Midwest |
| ■ Hazelwood | 26,206 | \$45,110 | Onyx |

Central St. Louis County

| ■ <u>Community</u> | <u>Pop.</u> | <u>MHI</u> | <u>Provider</u> |
|--------------------|-------------|------------|-----------------|
| ■ Glendale | 5,767 | \$75,279 | Midwest |
| ■ Univ. City | 37,428 | \$40,902 | Univ. City |
| ■ Webster G. | 23,230 | \$60,524 | Midwest |

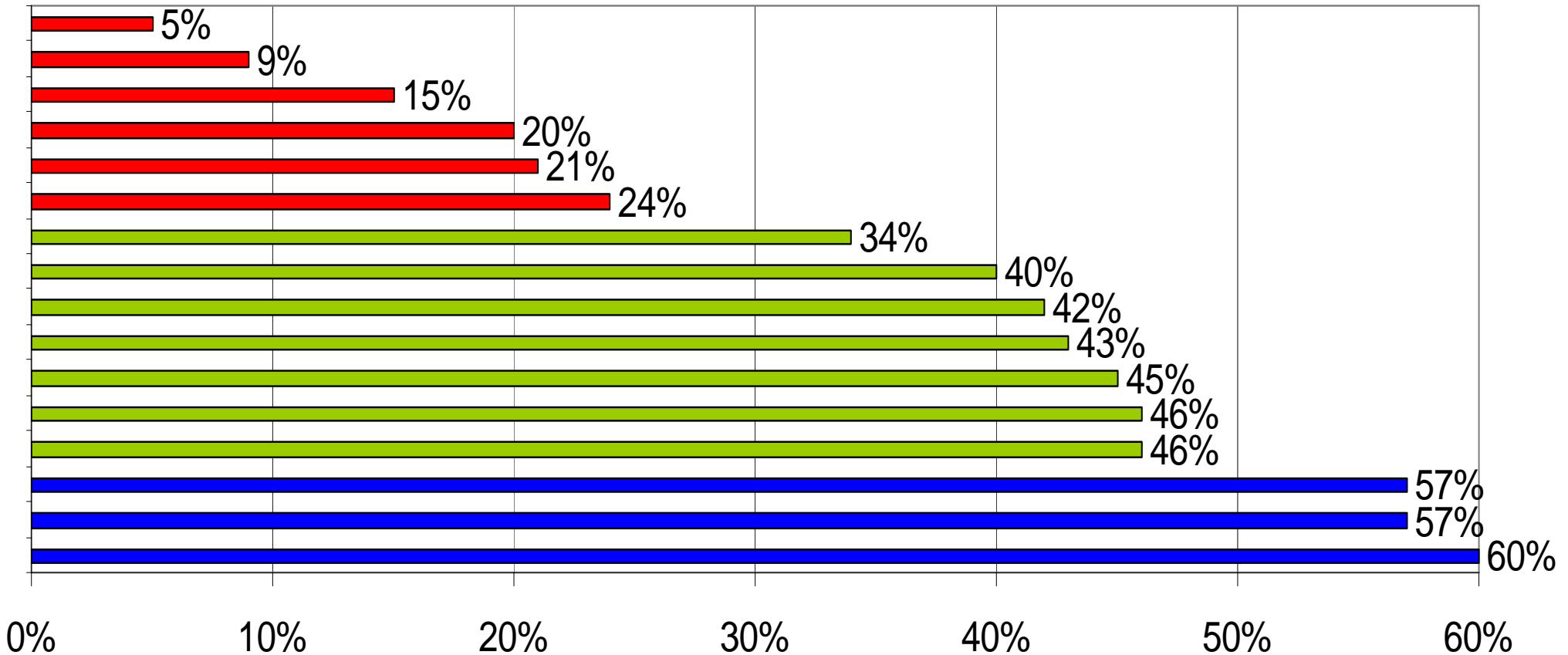
West St. Louis County

| ■ Community | Pop. | MHI | Provider |
|-----------------------|---------------|-----------------|-----------------|
| ■ Ballwin | 31,283 | \$66,458 | Midwest |
| ■ Chesterfield | 46,802 | \$83,802 | Midwest |
| ■ Ellisville | 9,104 | \$65,016 | Onyx |
| ■ Eureka | 7,676 | \$74,301 | SWS |
| ■ Fenton | 4,360 | \$74,708 | Onyx |

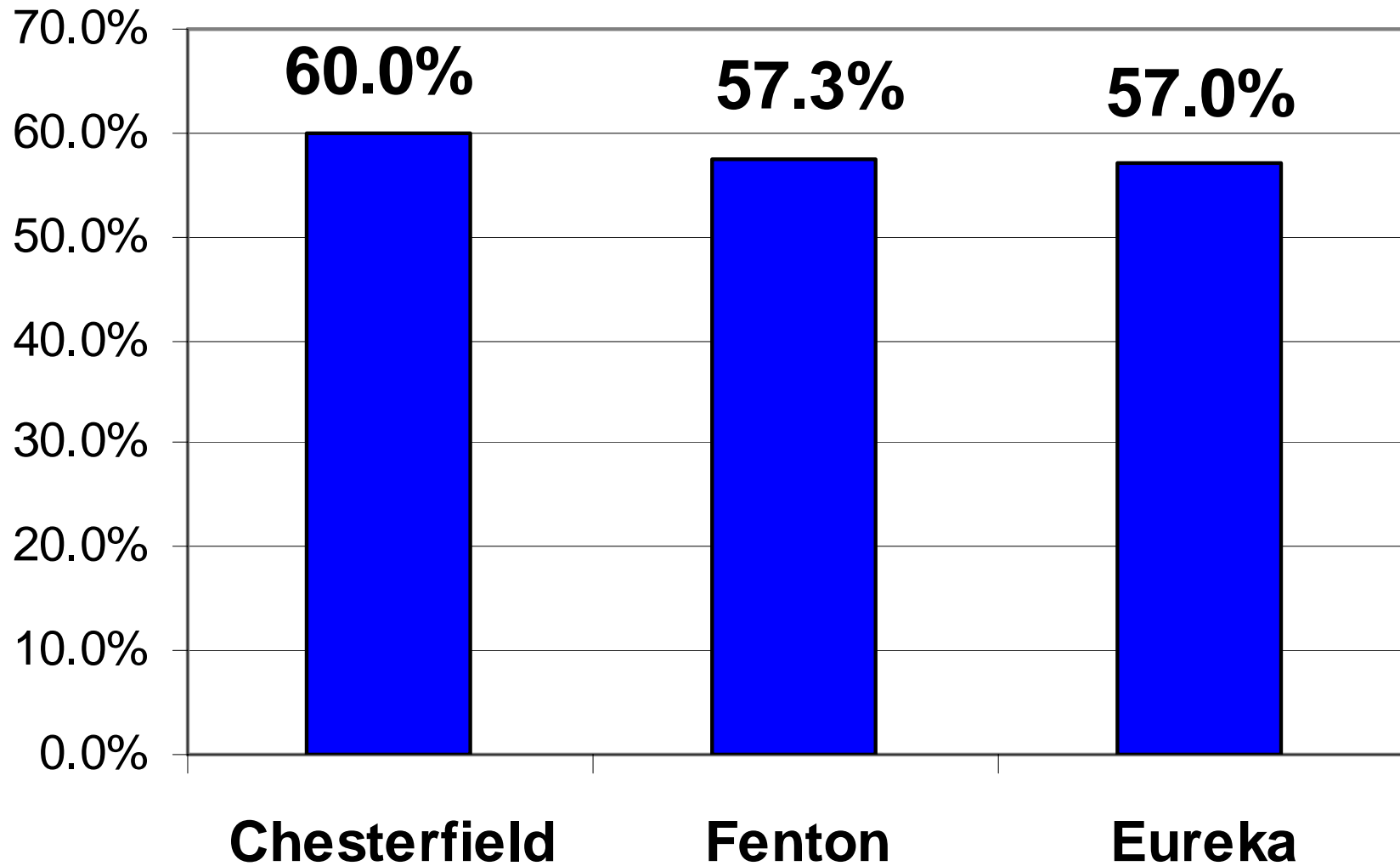
Curbside Recycling Set-out Rates

Differences in Curbside Set-out Rates

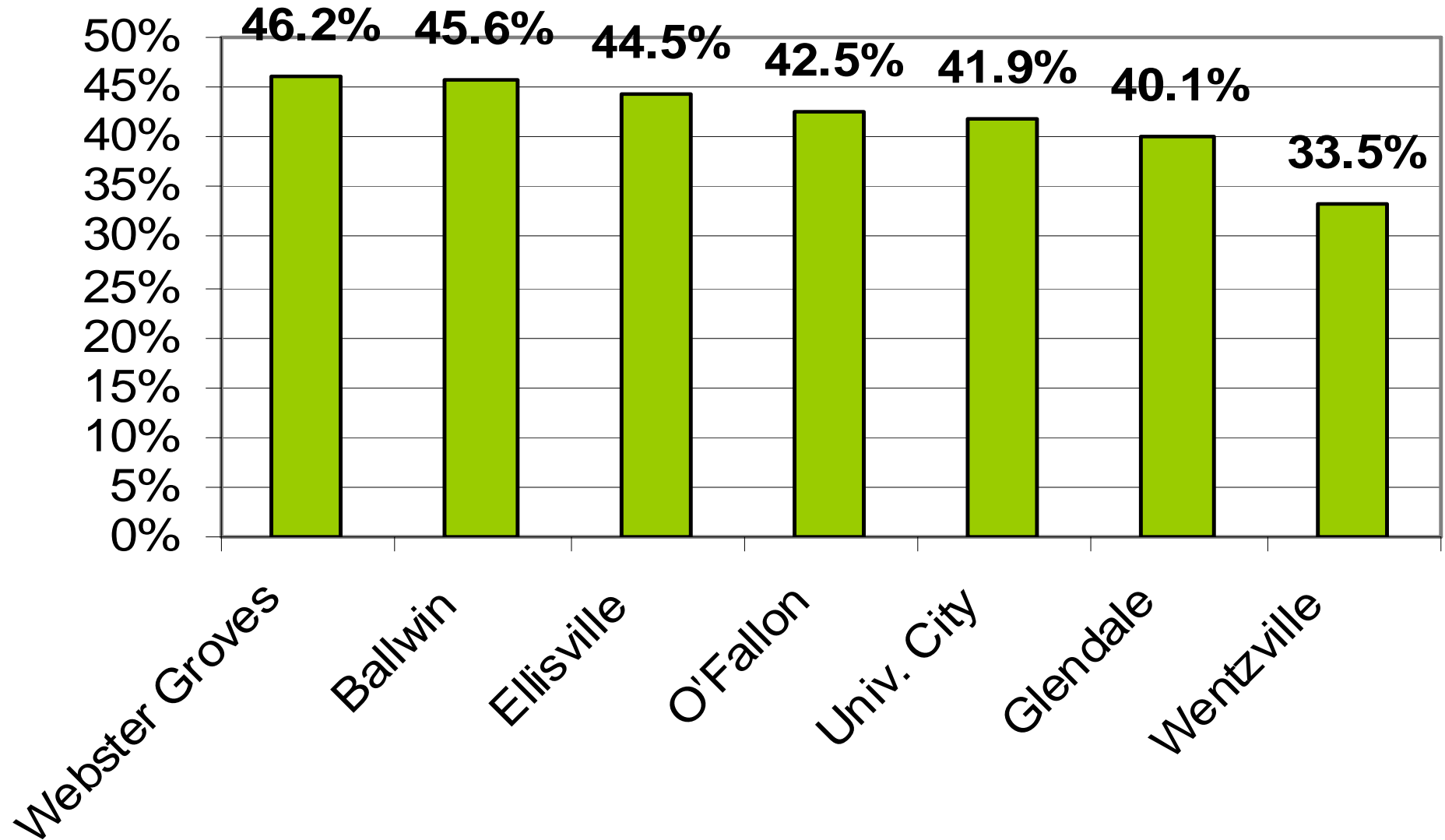
Average Participation Rate



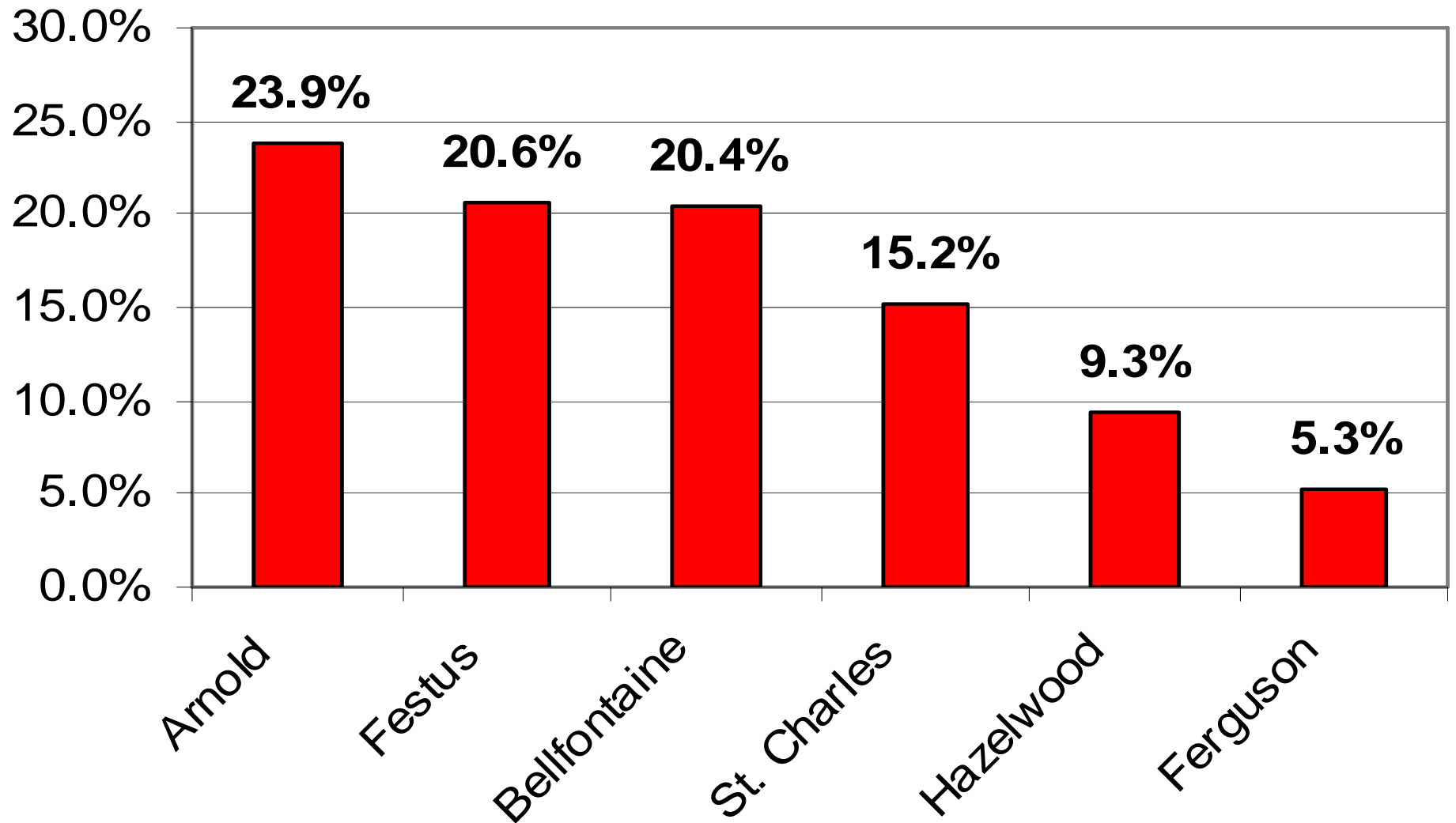
Tier One



Tier Two



Tier Three



What Variables Affect Curbside Recycling Participation?

Demographics

- **Median Household Income (MHI) is the most dependable indicator for curbside recycling.**
- **Median Value of Single Family Housing is also a reliable indicator for curbside recycling.**
- **Educational levels (% of H.S. graduates and college grads) are a less reliable indicator for curbside recycling.**

However there are other Factors that can be controlled!

Recycling Information and Education

Recycling Education

- **Extensive** – Multiple sources of information.
High Community priority.
- **Adequate** – One source of information.
- **Minimal** – Relies on the service provider.
Low Community Priority

Four 'Extensive' Recycling Education Programs

- **Chesterfield (60%)** – A Citizen Education Committee, Brochures, web site, event promotions.
- **Fenton (57%)** – Extensive Newsletter Articles, new resident campaigns, brochure provided by Onyx
- **University City (42%)** – Extensive Newsletter Articles, Brochures, and web site info
- **Wentzville (34%)** – “Everything You Ever Wanted To Know About Taking Out The Trash in Wentzville”

Seven 'Adequate' Recycling Education Programs

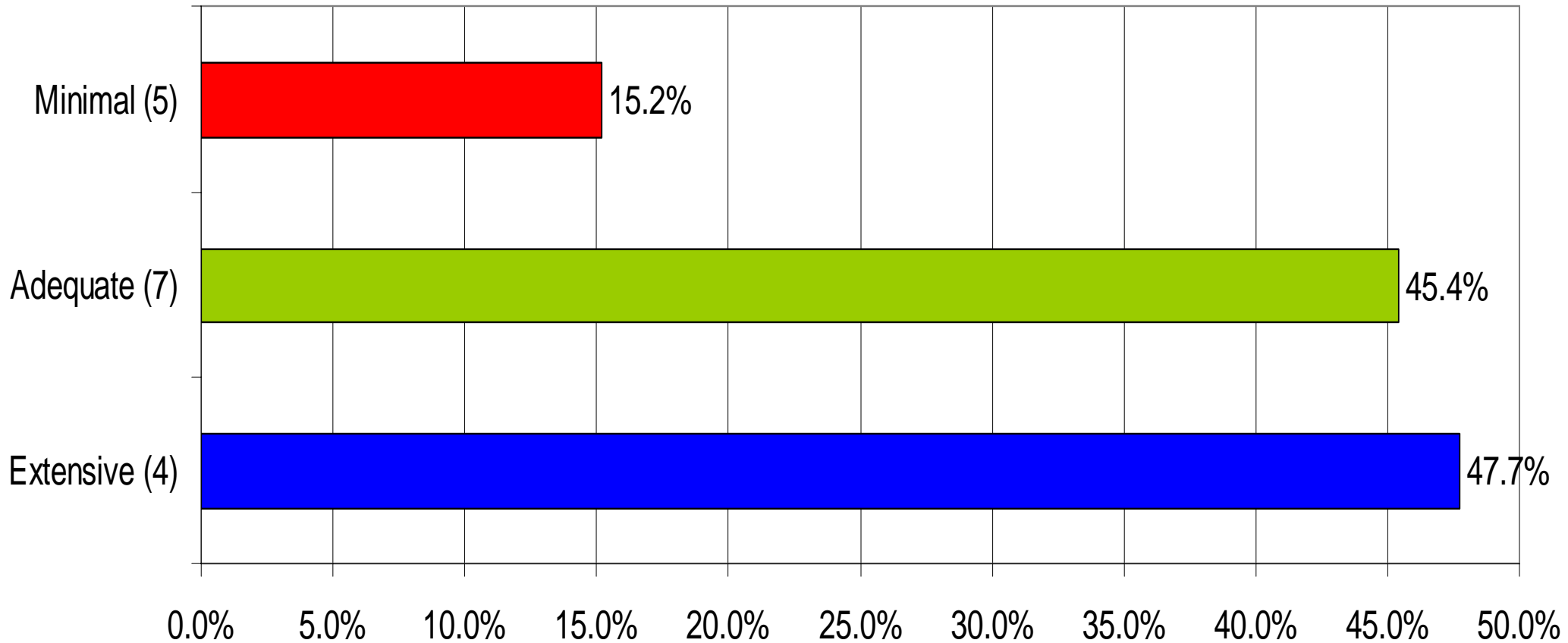
- **Eureka (57%)** – A Brochure for new residents
- **Webster Groves (46%)** – 11x17 brochure sent to all residents in 2000
- **Ballwin (46%)** – Recycling info included in the 'New Residents Handbook'
- **Ellisville (45%)** – 11x17 brochure sent to all residents in 2003
- **O'Fallon (43%)** – Brochure sent to all new households. Web site info.
- **Glendale (40%)** - Recycling info included in the 'New Residents Handbook'
- **Hazelwood (9%)** – Brochure and magnet sent to all residents.

5 'Minimal' Recycling Education Programs

- **Arnold (24%)** – A Brochure provided by Onyx
- **Festus (21%)** – Information provided by Waste Management
- **Bellefontaine (20%)** – Information provided by Waste Management
- **St. Charles (15%)** – Information provided by Midwest Waste (Allied).
- **Ferguson (5%)** - A Brochure provided by Midwest Waste (Allied).

Recycling Information and Education

Effects of Recycling Education



Economic Incentives

Economic Incentives

- **Fenton (57%)** – Pay-as-you-throw program penalizes residents for each bag outside of the container.
- **University City (42%)** – The City owns the system and pays to dispose of waste, but receives revenue for recyclables generated within their MRF.
- **O'Fallon (43%)** – The City owns the system and pays to dispose of but they do not have a MRF.

Economic Disincentives

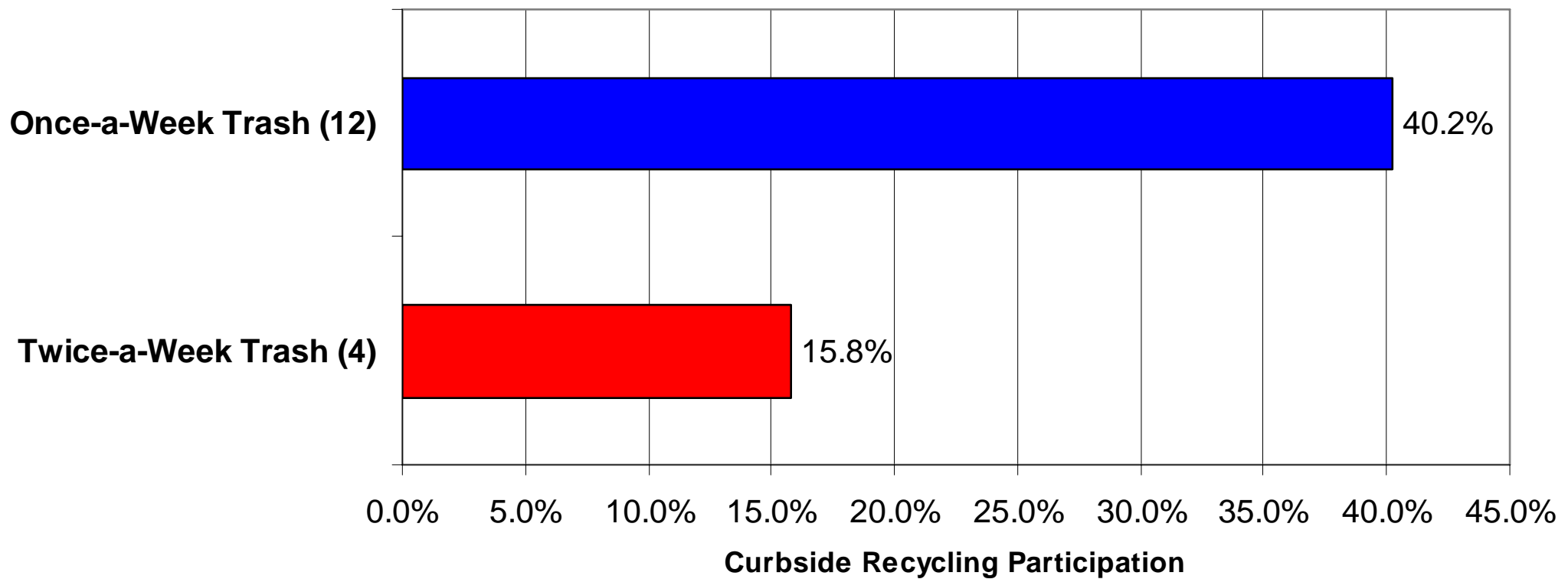
Economic Disincentives

The following communities have contracted for twice a week trash service:

- **Wentzville (34%)**
- **St. Charles (15%)**
- **Hazelwood (9%)**
- **Ferguson (5%)**

Economic Disincentives

Trash Collection Frequency and Recycling Participation



Convenience Factors

Convenience

- **Single Stream Collection**
- **Large Wheeled Carts**
- **Cardboard Collection**
- **Same Day Trash and Recycling**
- **Space Restrictions**

Single Stream Collection



Large Wheeled Carts



Cardboard Collection



Same Day Trash and Recycling

- **Inconclusive findings based on two communities:**
 - **Fenton** – 2% increase for same day trash and recycling
 - **Hazelwood** – 7% decrease for same day trash and recycling

Space Restrictions

- Older neighborhoods and homes have less area for recycling bins or carts.
- Mobile home parks have less space for recycling (5% set-out rate in St. Charles).
- Newer upscale developments have more storage for recycling in garages.

Social Factors

The Social Effect

- Curbside recycling is as much (or more) a social activity as it is an environmental activity.
- Residents on cul-de-sacs had a higher set out rate.
- Residents on busy streets had a lower set out rate.
- Citizen groups can instill grassroots participation in curbside recycling.

Phase II Confirmation

Confirmation Data

| ■ Community | Initial | Follow-up |
|---------------------------|----------------|------------------|
| ■ Chesterfield | 60% | 60% |
| ■ Different neighborhoods | | |
| ■ Festus | 21% | 29% |
| ■ Different neighborhoods | | |
| ■ Ferguson | 5% | 12% |
| ■ Additional education | | |

Phase III
Participation
and
Education

Phase III

- Survey 3 Communities
 - Ballwin
 - Arnold
 - Ferguson
- Track individual households
- Conduct a baseline study
- Distribute information packets
- Conduct a follow-up survey

The City of Ballwin

- Initial **set out** survey rate was 46% in April 2005
- District provided a grant for a recycling brochure in 2005
- Midwest Waste began single stream collection in 2005

Ballwin Survey - 2006

- Baseline Survey done in October (for 2 weeks)
 - Average set-out rate was 54%
 - Participation rate was 66%
 - Recycled both weeks was 43%
- Packets were hung in November
- Follow-up Survey was done in December
 - Average set-out rate was 58%
 - Participation rate was 69%
 - Recycled both weeks was 47%

Conclusions About Ballwin

- 1. Weather conditions may have reduced participation in the follow-up survey**
- 2. The educational material showed minimal increases (4%) during the follow-up surveys**
- 3. It is difficult to increase participation above the 60% rate.**

The City of Arnold

- Initial **set out** survey rate was 24% in October 2005
- Onyx Waste began single stream collection in 2006
- Onyx sent out a recycling brochure in 2006

Arnold Survey - 2007

- Baseline Survey done in February (for 3 weeks)
 - Average set-out rate was 28%
 - Participation rate was 40%
 - Recycled each week was 17%
- Packets were hung in March
- Follow-up Survey was done in April
 - Average set-out rate was 34%
 - Participation rate was 46%
 - Recycled each week was 22%

Conclusions About Arnold

- **The educational material showed minimal increases (6%) during the follow-up surveys**
- **Most increases occurred in neighborhoods that already recycled (the social effect).**
- **The educational material did not increase in low participation areas**

Conclusions So Far...

- 1. Demographics determine participation parameters**
- 2. Recycling education is important, but it must be targeted**
- 3. Program design makes a significant difference**
- 4. Social pressure is significant**

Questions?

**The St. Louis/Jefferson Solid Waste
Management District**

314-645-6753

Dennis Siders

573-783-6363