

To the Future Through Data CTR 1992-2004 Part I

CTR Task Force Meeting

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July 23, 2004



**Washington State
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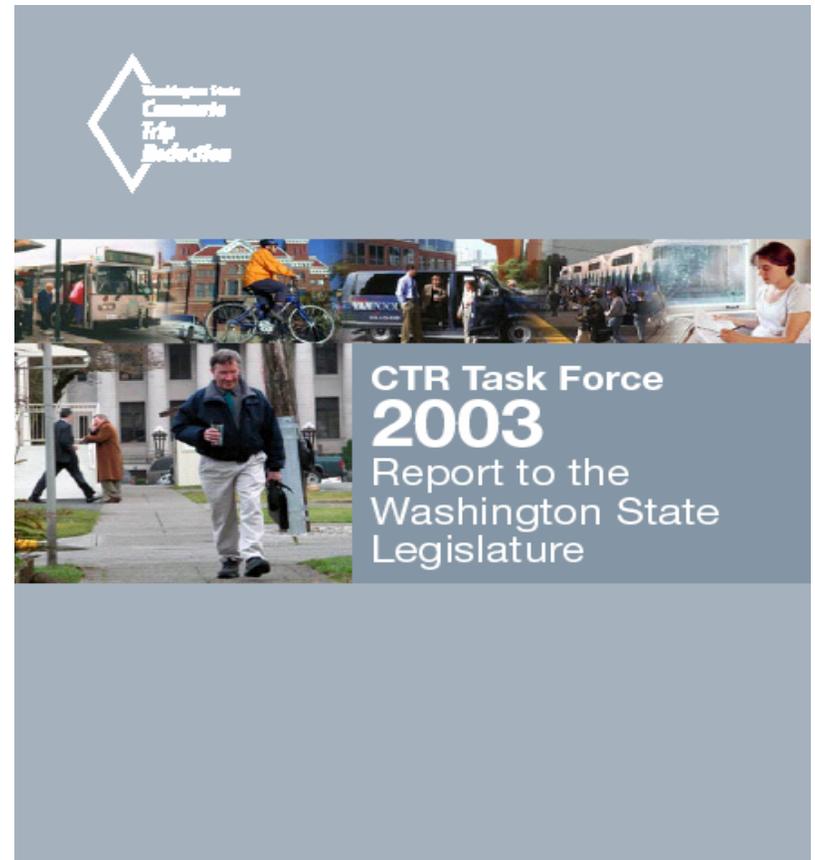
Presentation purpose

- Summarize basic program and commute trends
- Stimulate critical thinking toward a future vision of CTR
- Generate questions for local government implementers
- Inspire further questions about the data

Unless otherwise noted, the data presented is from employee survey information in the WSDOT CTR database.

What do we already know about CTR?

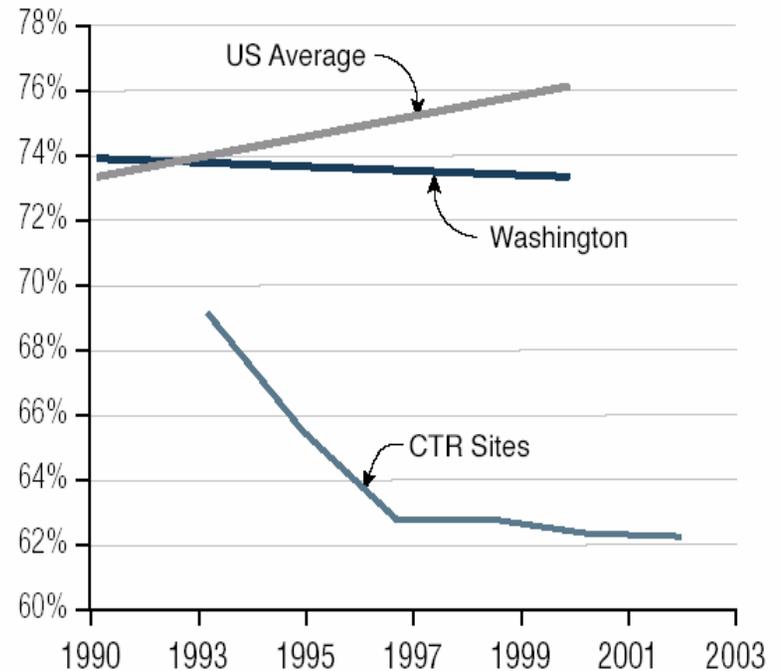
- The CTR Program is working



What do we already know about CTR?

- The CTR Program is working
- Employee drive-alone rate has decreased significantly

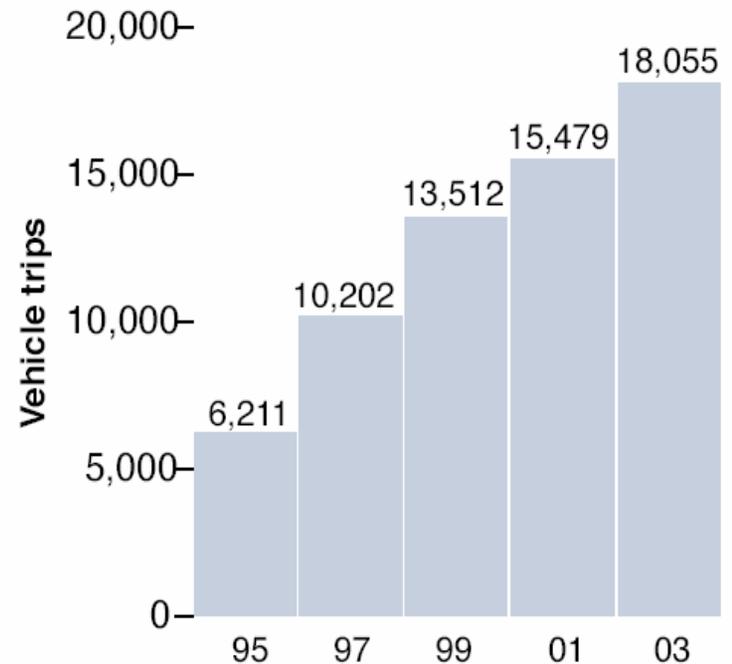
Figure E-1 Trends in drive-alone commuting 1990-2003



What do we already know about CTR?

- The CTR Program is working
- Employee drive-alone rate has decreased significantly
- The number of vehicle trips to CTR sites has decreased significantly

Figure 1-2 Vehicle trips reduced by sites that entered CTR in 1993



What do we already know about CTR?

- The CTR Program is working
- Employee drive-alone rate has decreased significantly
- The number of vehicle trips to CTR sites has decreased significantly
- Fewer vehicle trips in critical places at critical times reduces traffic delay
- TTI estimates that the total (morning and evening) annual delay reduction in 2003 for changes in commute choice at CTR sites to be 1.84 million hours and values the savings at \$24 million each year.

To the future through data

Current objectives

Potential new objectives



- The program's geography
- The program's focus (employees working at major worksite)
- Program elements (incentives)

Performance measures for current objectives

- Traffic Congestion (change in corridor or choke point trips)
- Air Quality (change in emissions by air shed)
- Energy Consumption (change in total petroleum use)

What levers can we use to increase impacts?

Performance measures for potential objectives

- Global warming (change in total GHG emissions)
- Economic development (change in corridor or choke point trips and ???)
- Others (???)

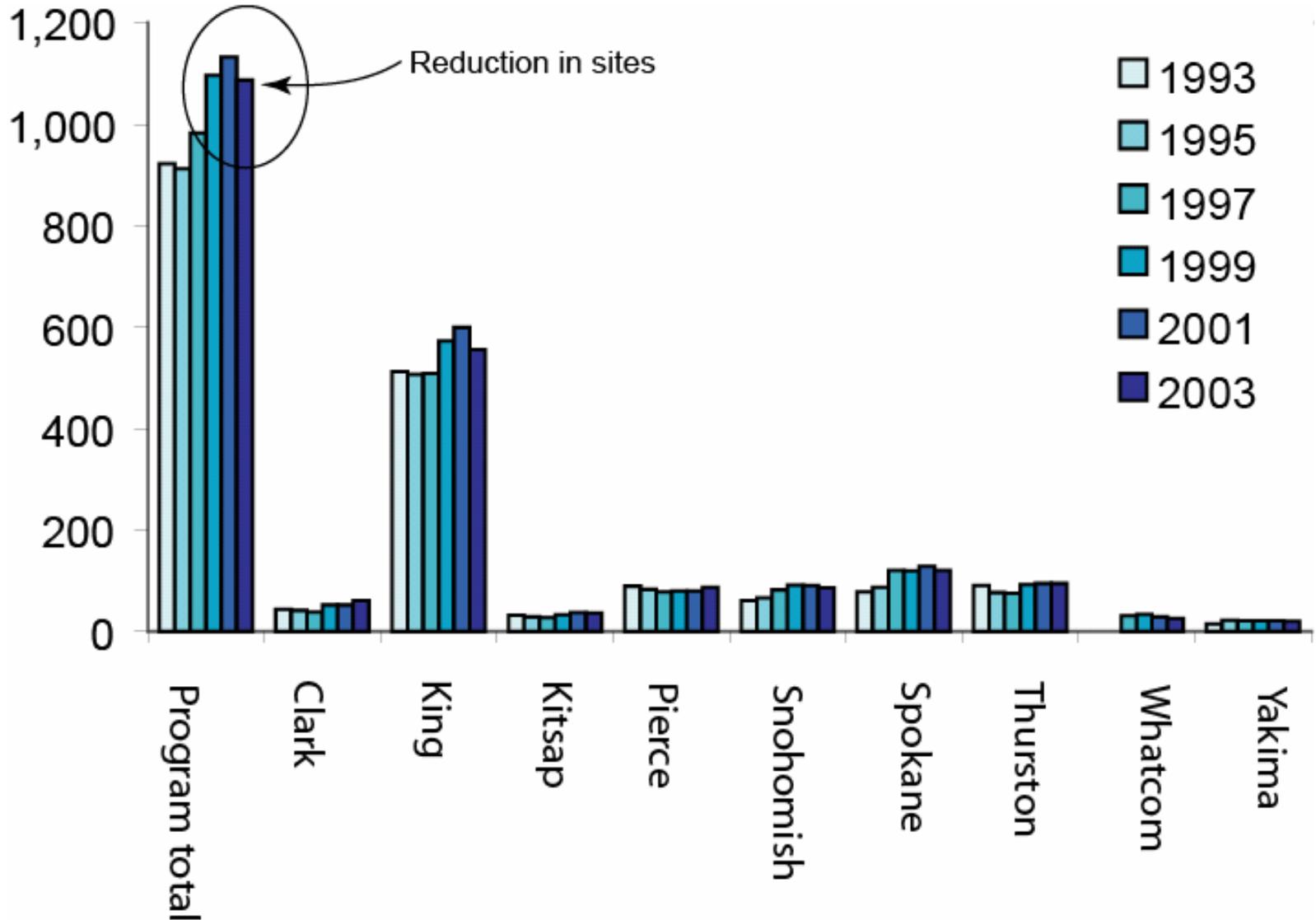
What opportunities do we have?

“Continuation, modification or termination”

- What will the task force recommend to the legislature in 2005?
- Anything in 2004?

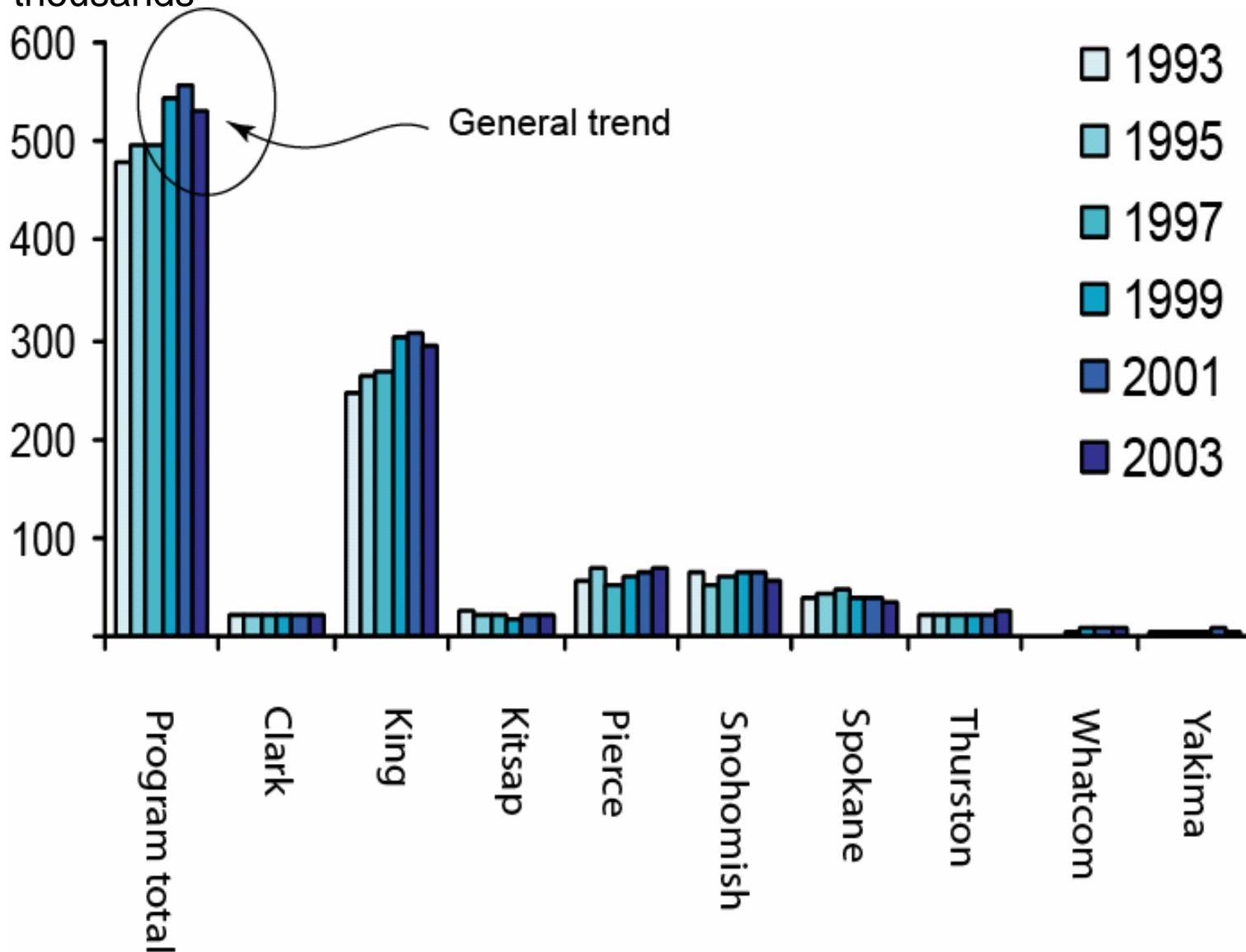
Basic program information

Number of work sites implementing CTR

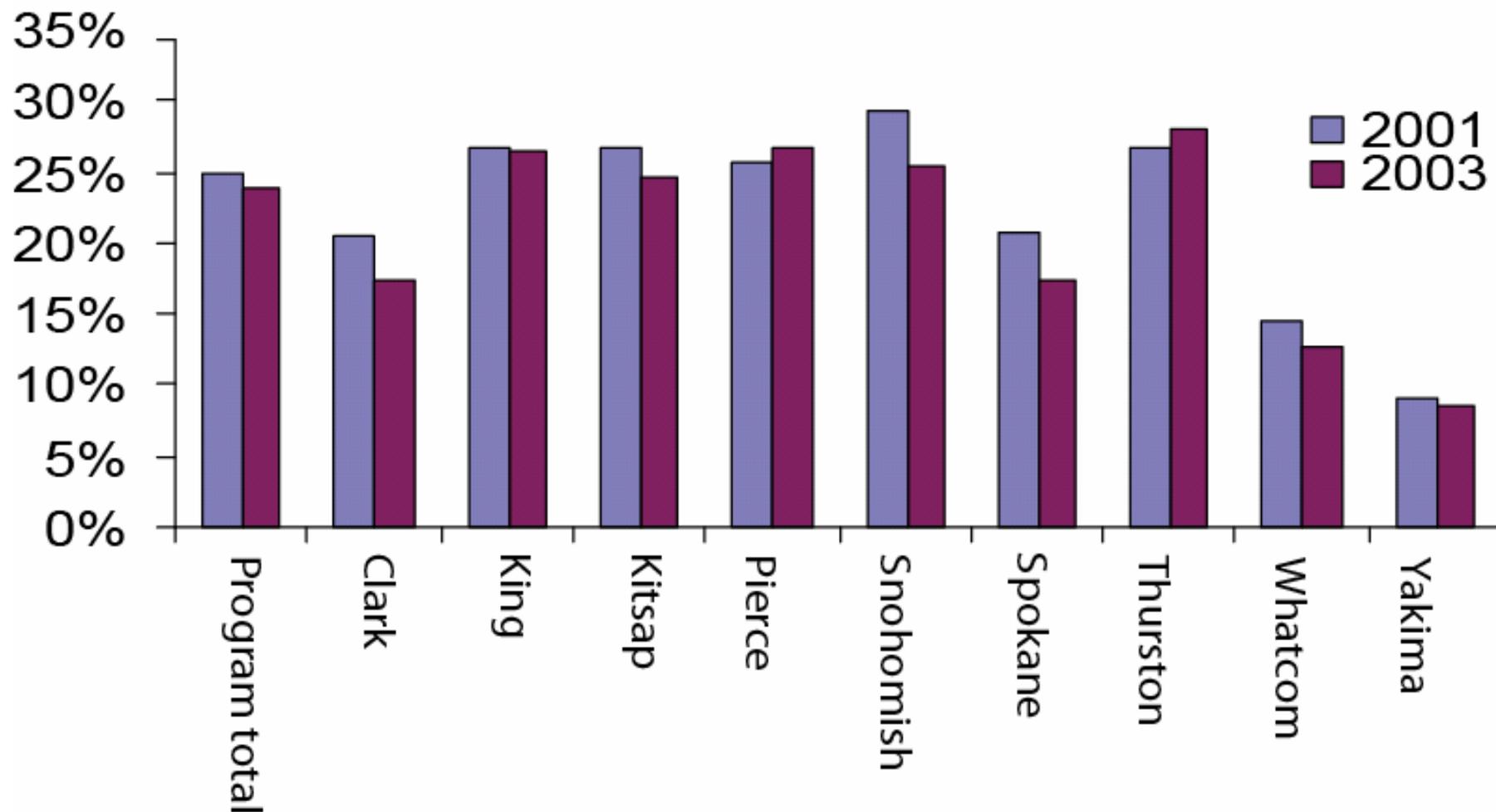


Number of employees at CTR sites

1993 - 2003
thousands

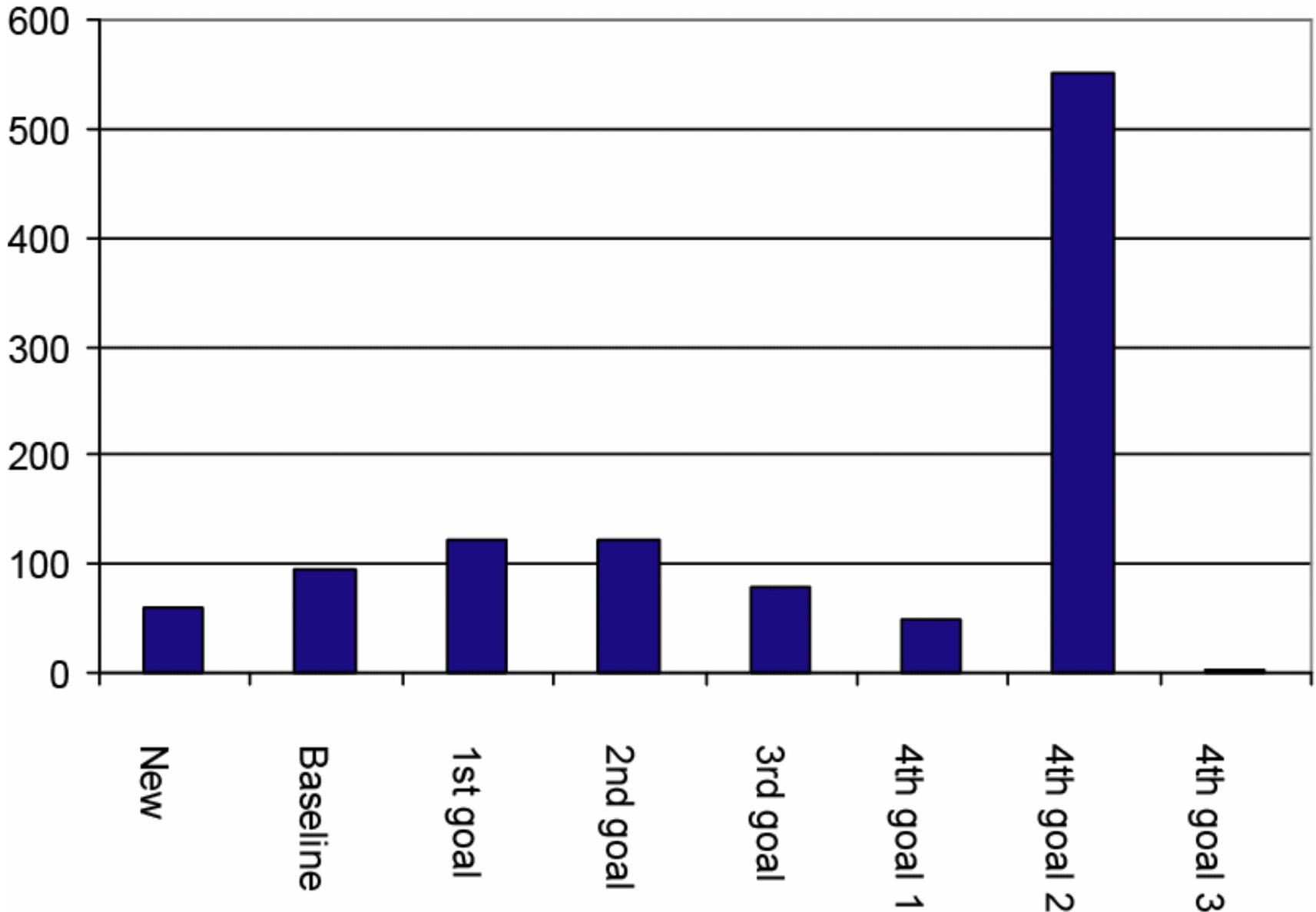


Percent of county employment at CTR sites

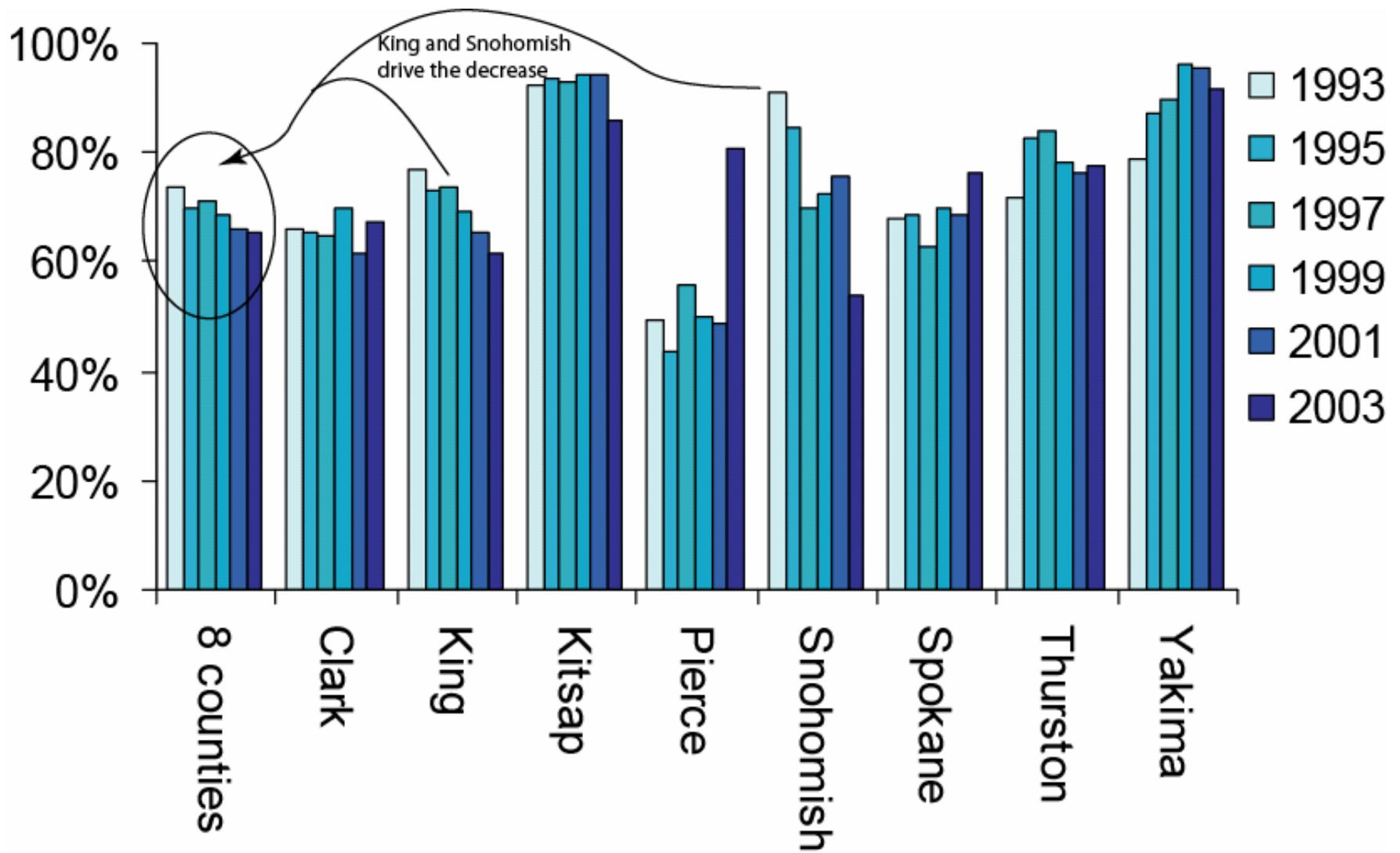


Source: WSDOT CTR Database & Employment Security for non-agricultural county employment.

Number of sites measuring in 2003 by program year



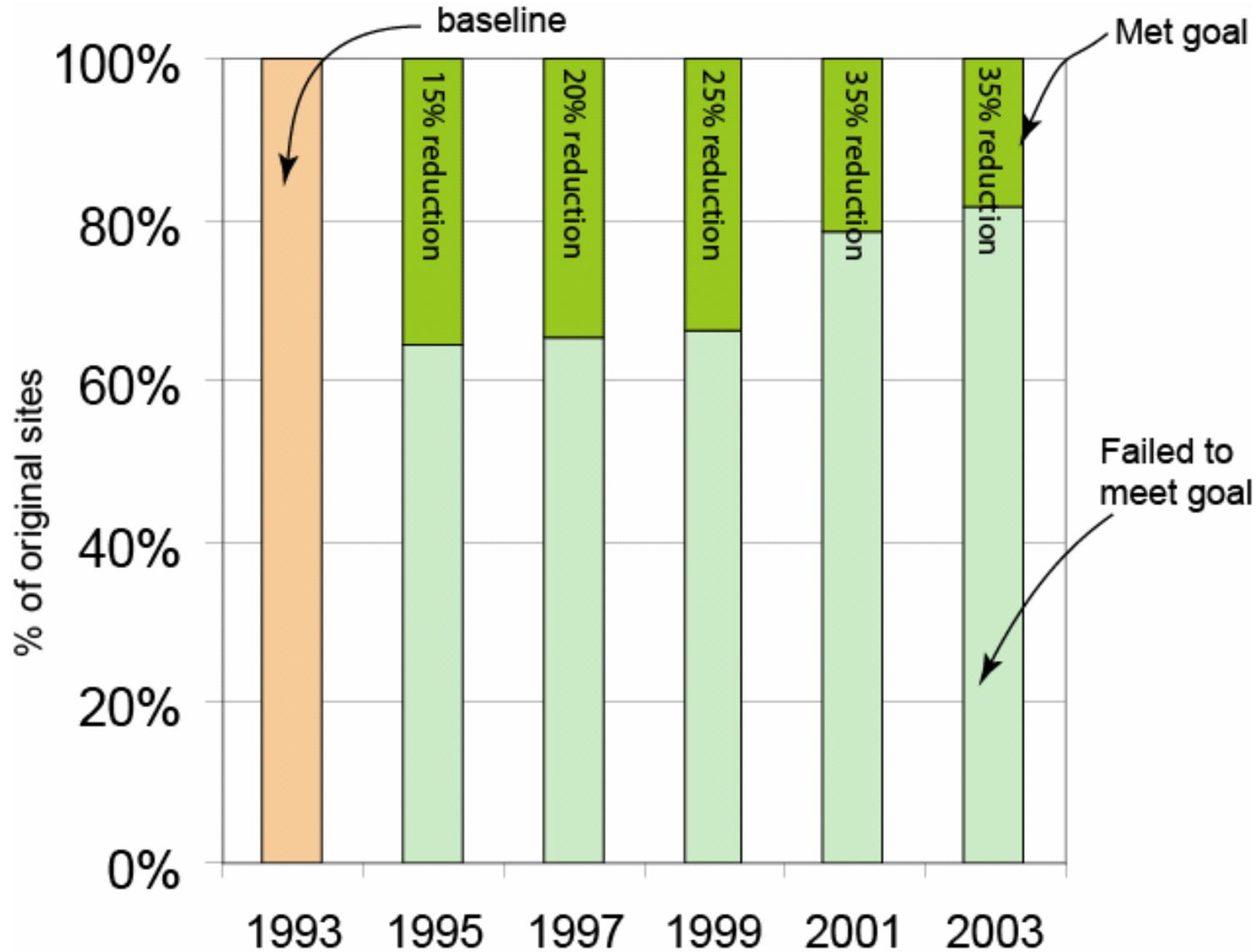
Percentage of total CTR employment at the original sites



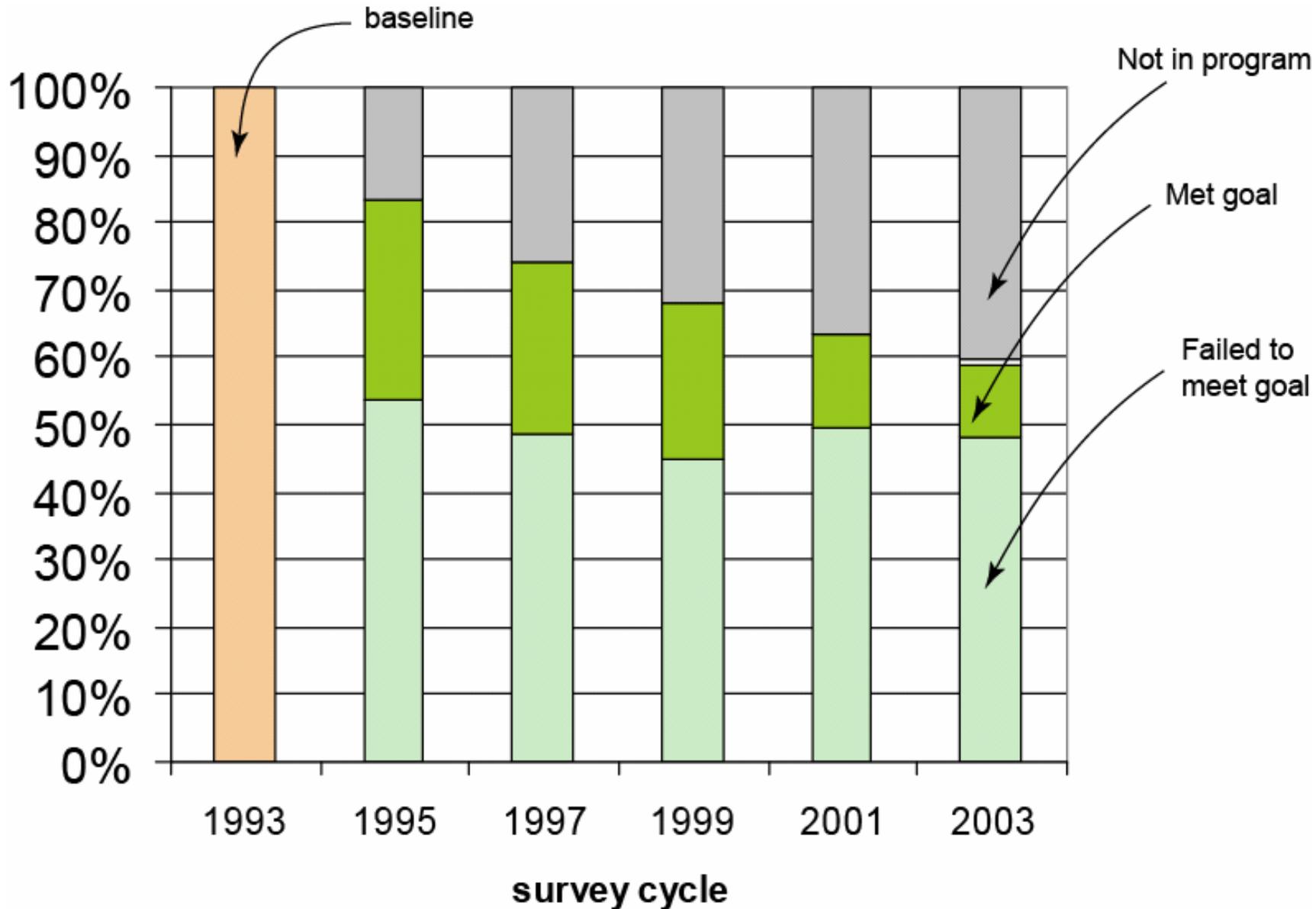
Original sites: Began implementing CTR in 1993 and completed a 2003 employee survey.

Percent of original sites that have met goal

By survey year

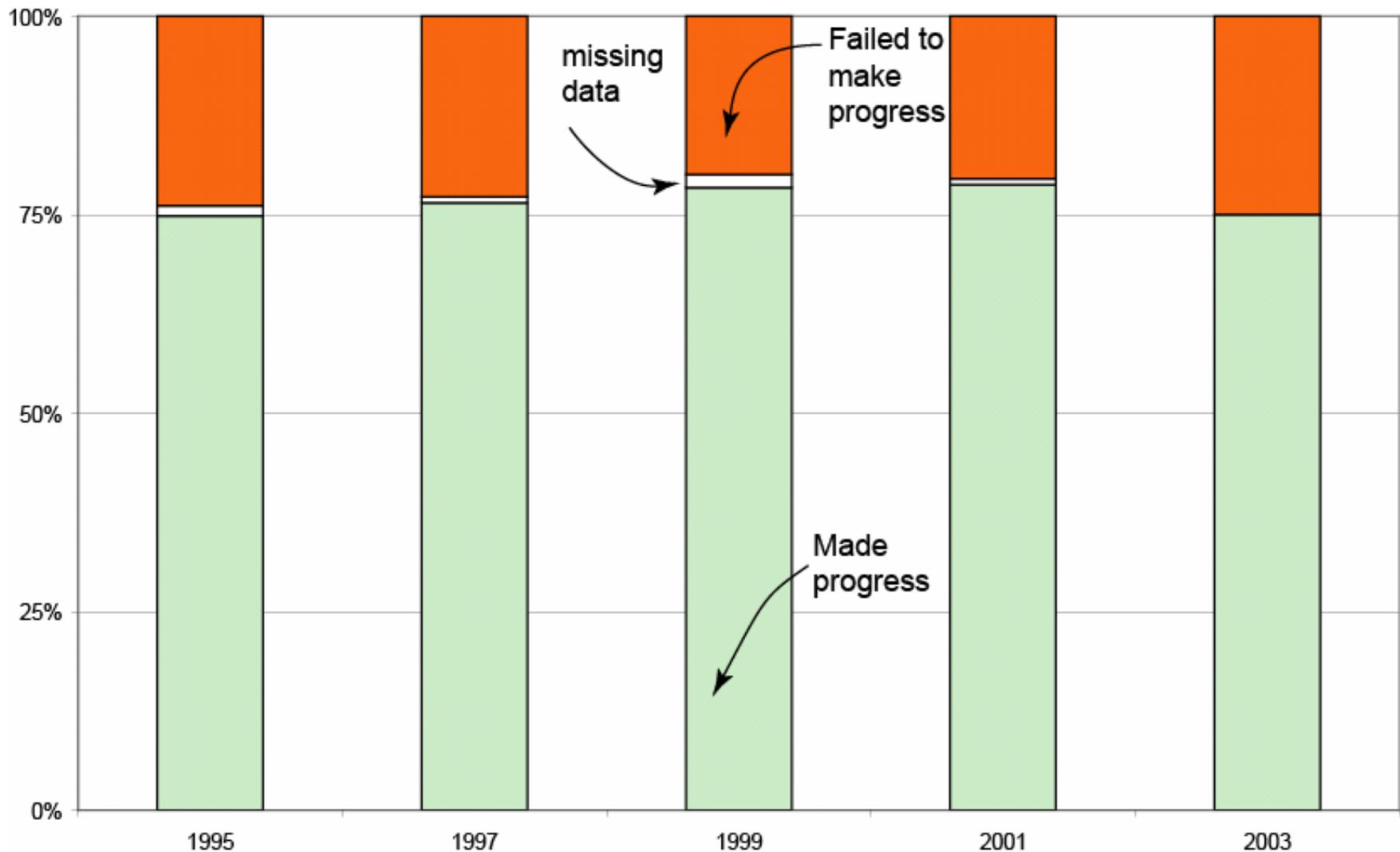


Percent of sites that began in 1993 that met their goal



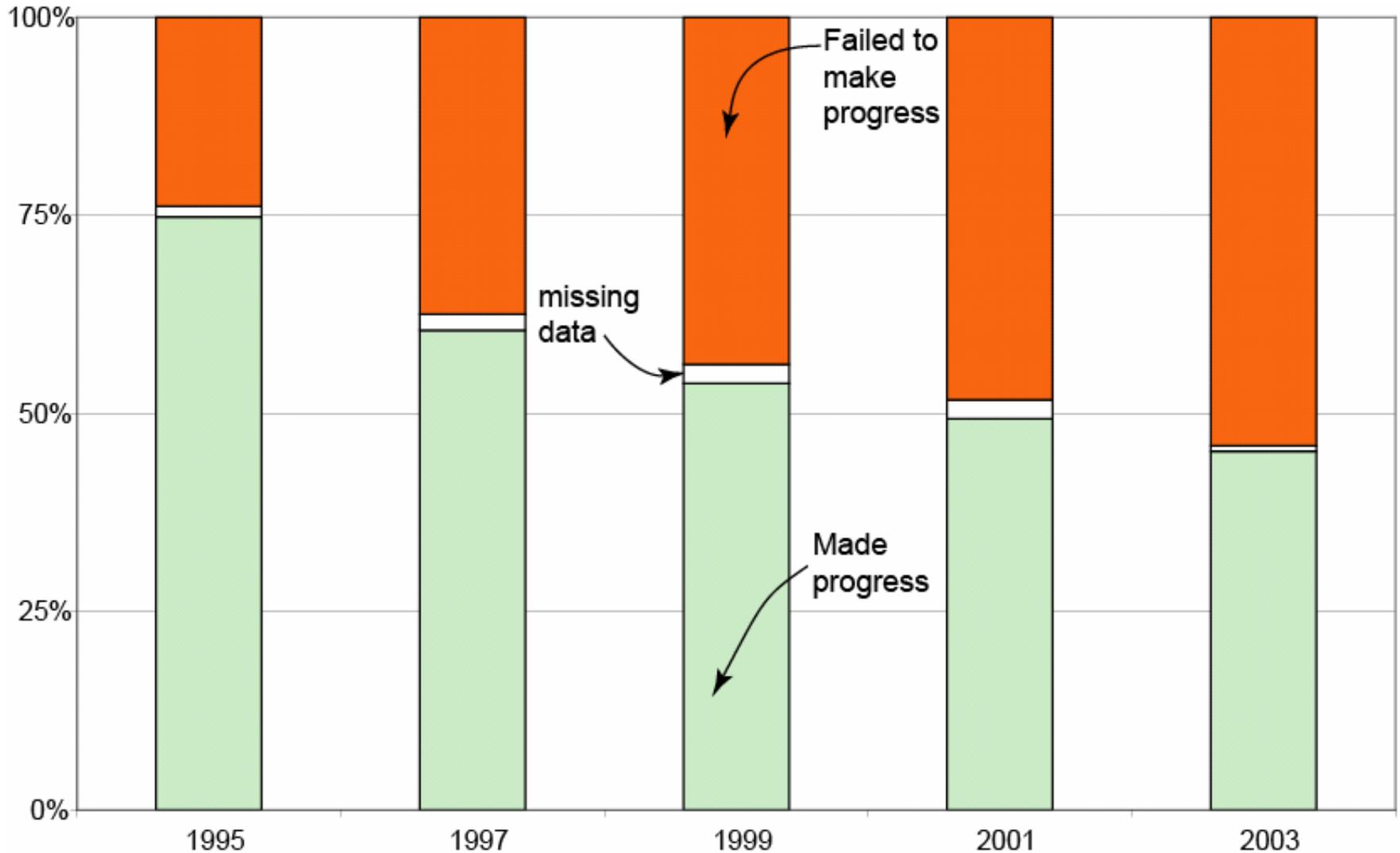
Percent of original sites demonstrating progress—eight counties

Compared to 1993 baseline



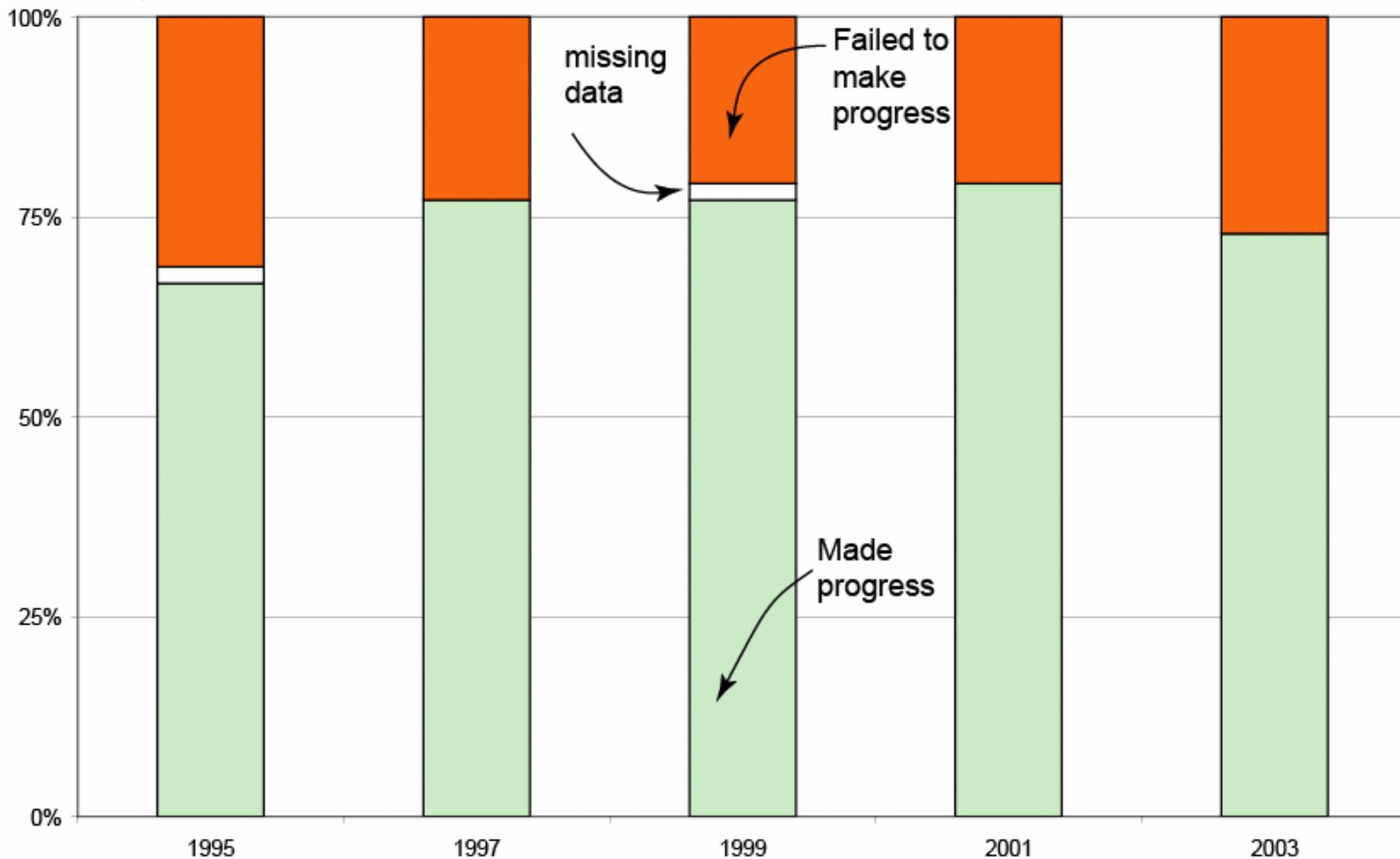
Percent of original sites demonstrating progress—eight counties

Compared to previous survey



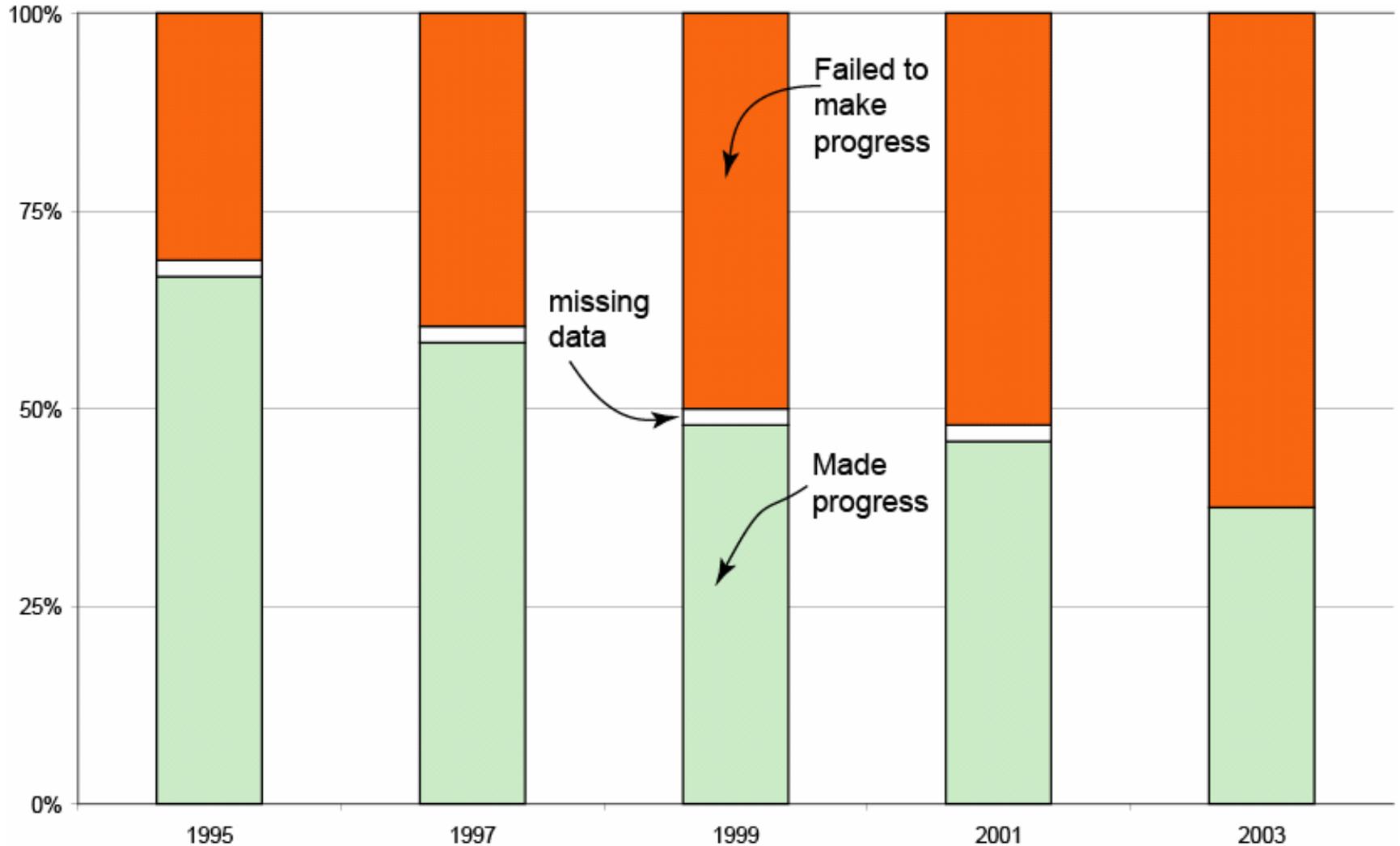
Percent of original sites demonstrating progress--Snohomish

Compared to 1993 baseline



Percent of original sites demonstrating progress--Snohomish

Compared to previous survey



Program impacts

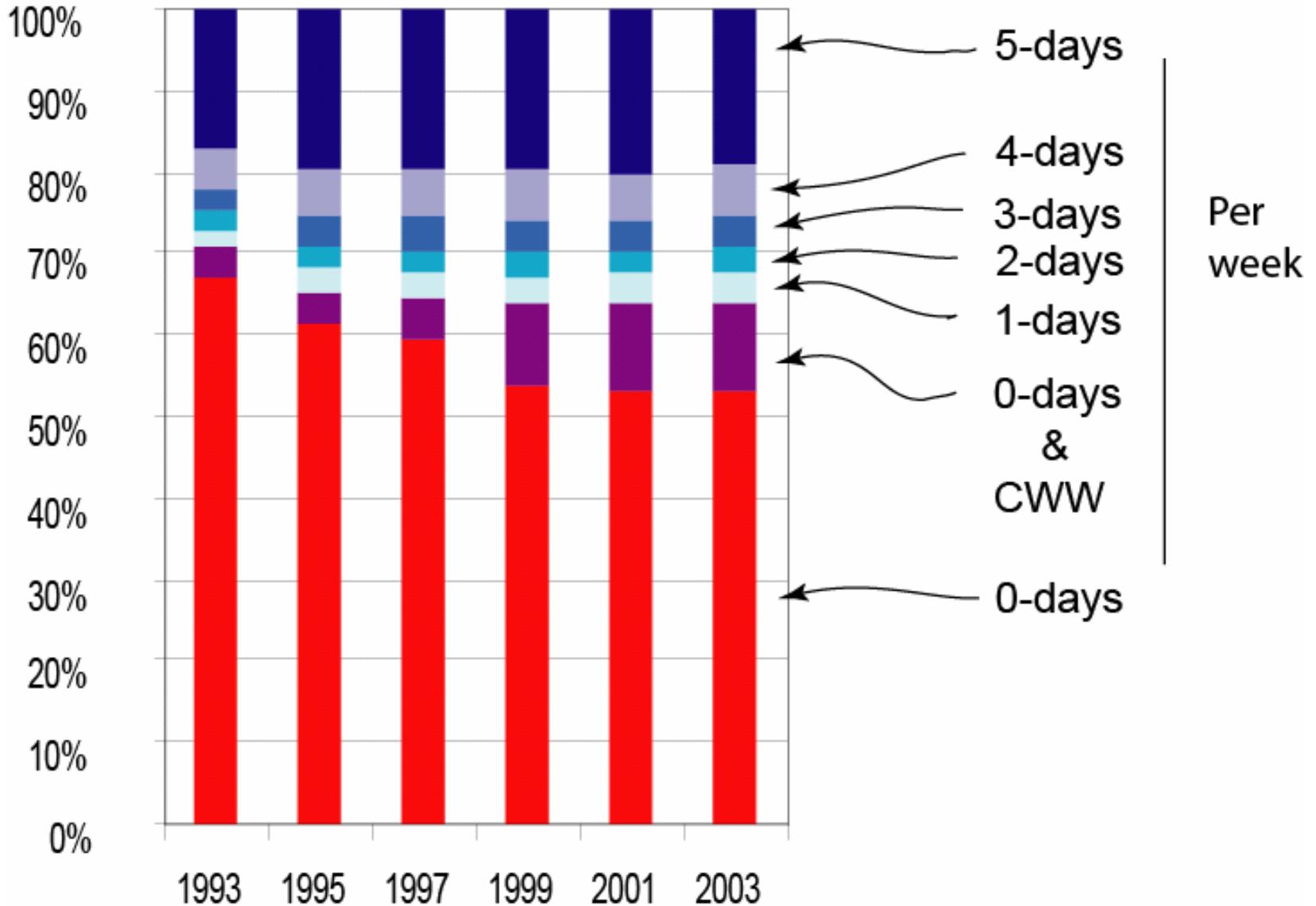
- Changes in:
 - Participation
 - Mode
 - Trips
 - VMT

Note:

Participation indicates arriving at work by a means other than driving alone.

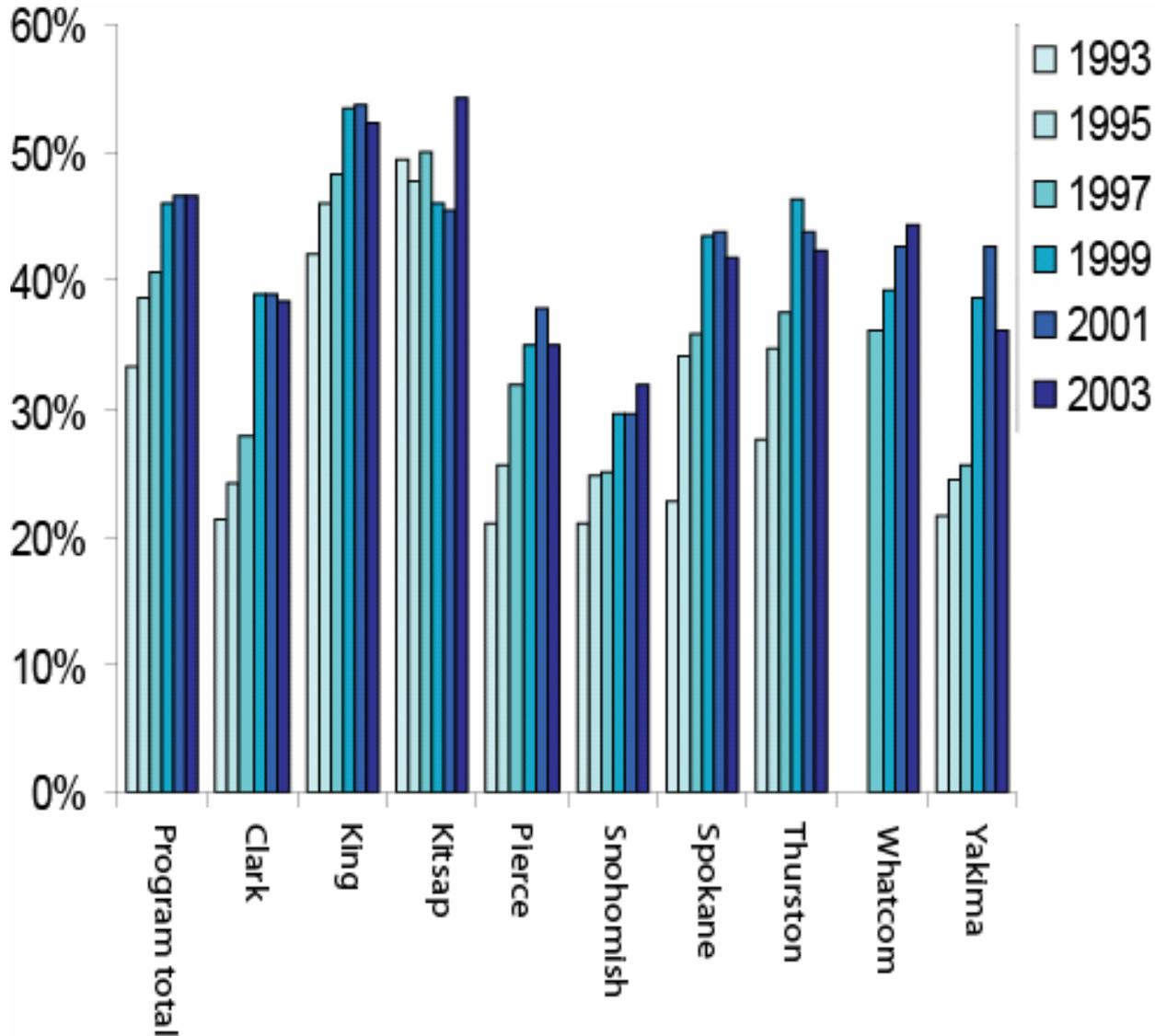
Percent of employees who use an alternative

Per week

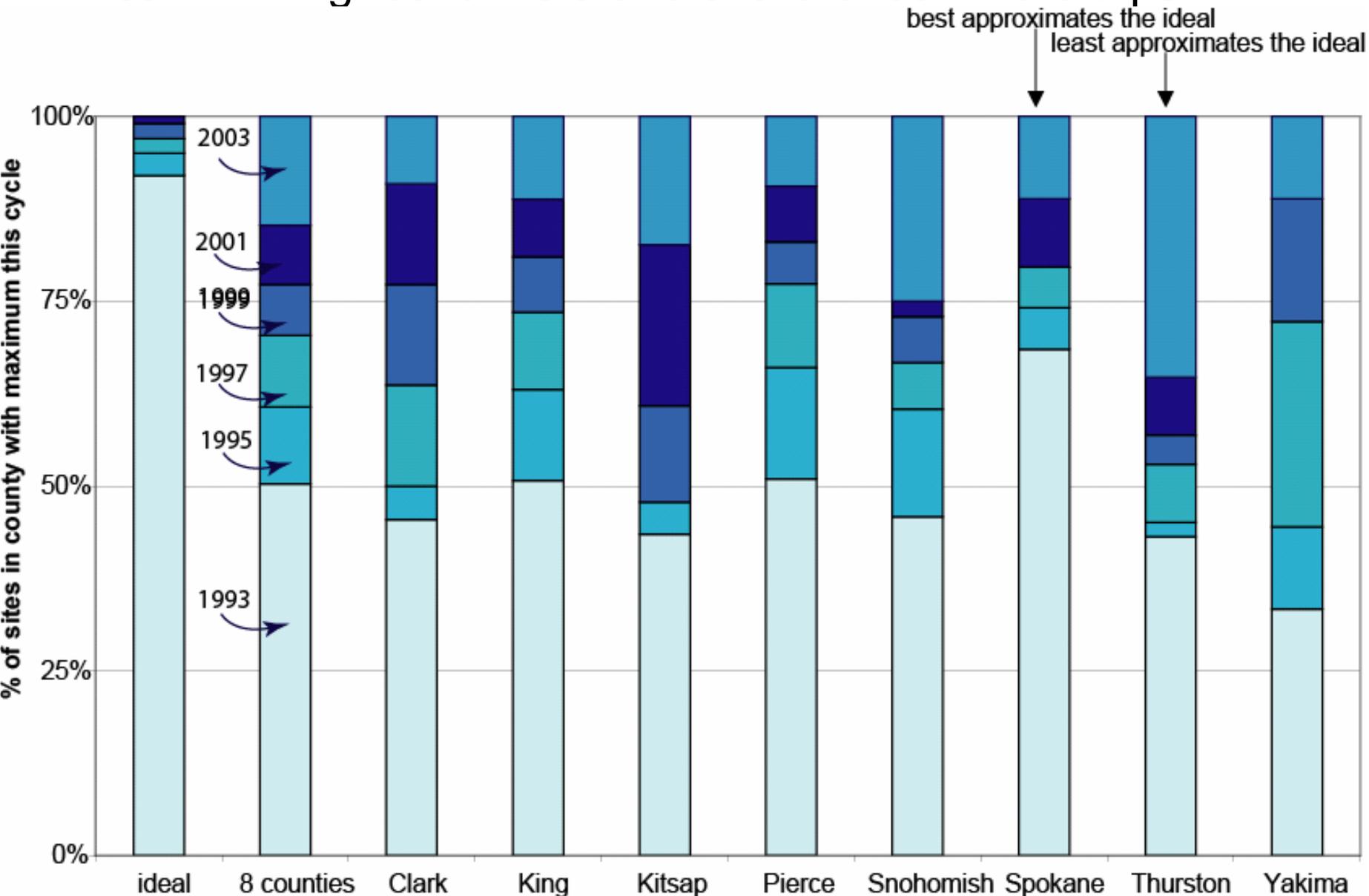


Percent of employees participating

Percent of total employees at CTR sites



Year with highest drive alone share of commute trips



Year with lowest drive alone share of commute trips

Original sites

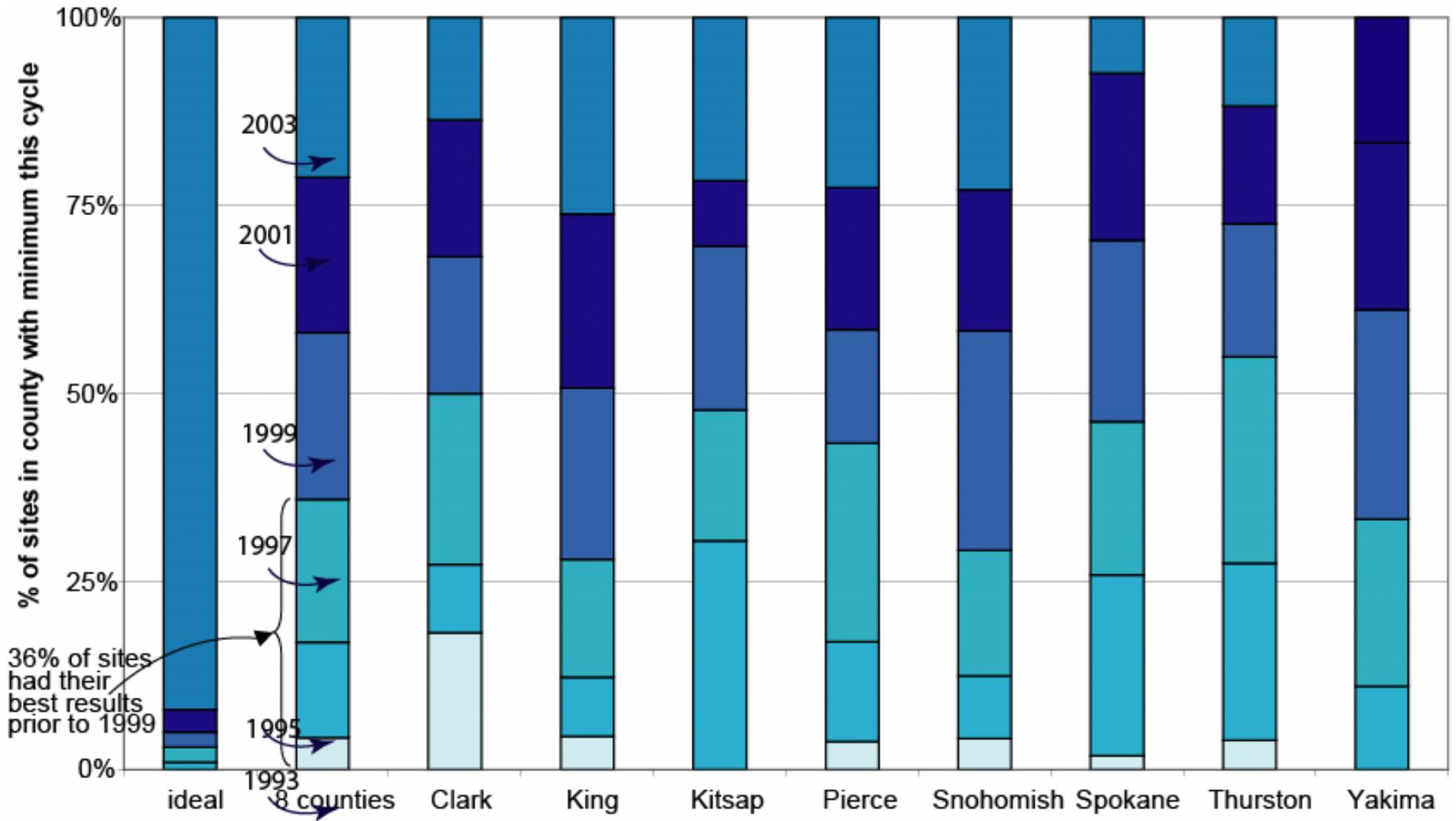
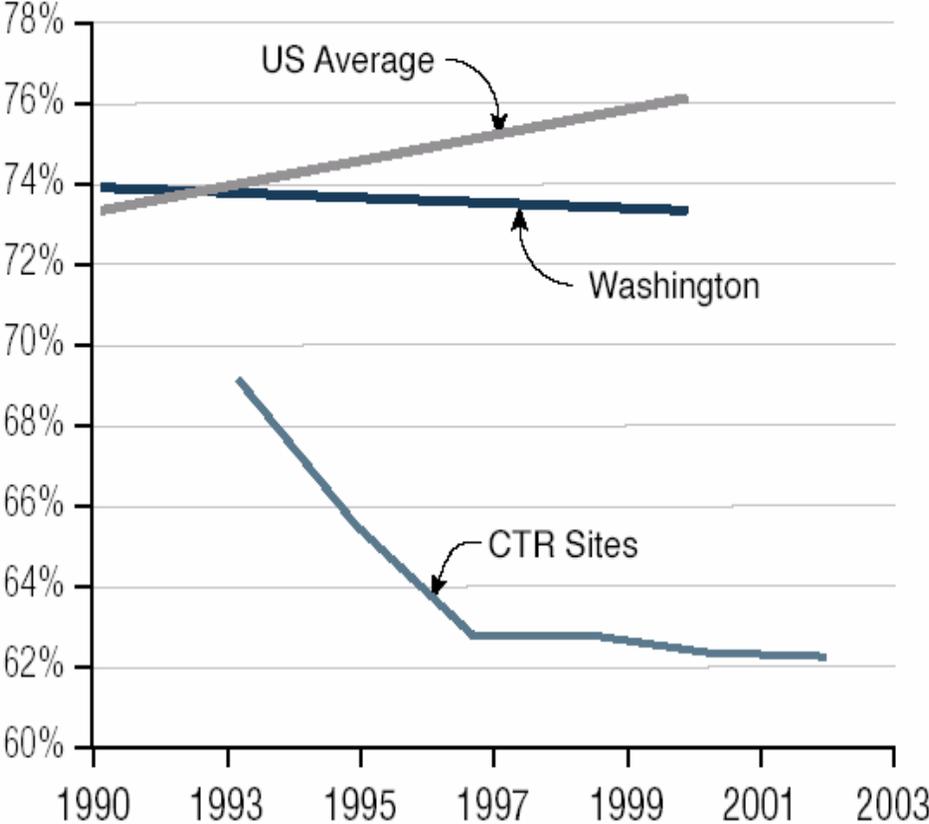


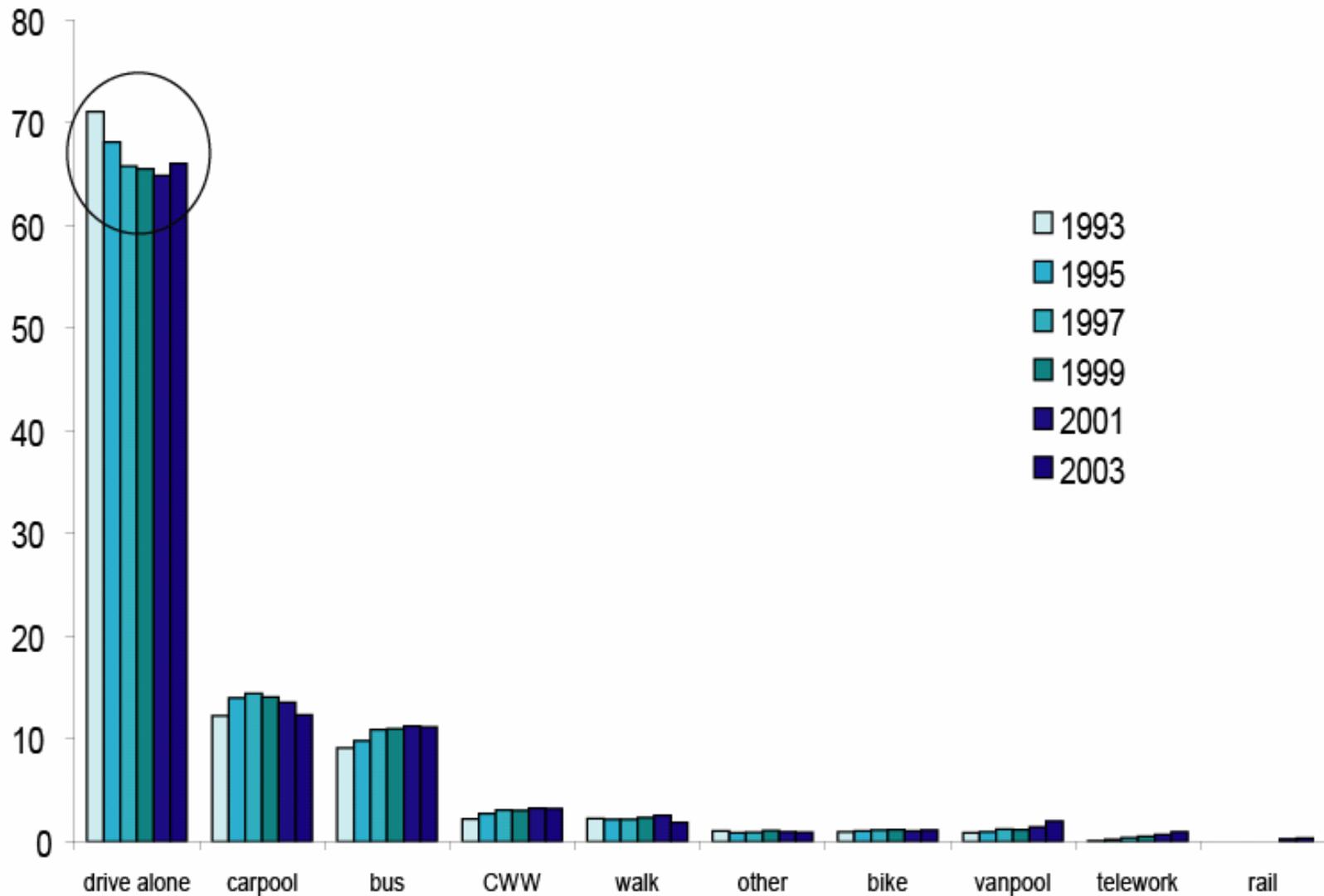
Figure E-1 Trends in drive-alone commuting
1990–2003



Source: US Census, CTR Employee Survey, 525 original CTR sites

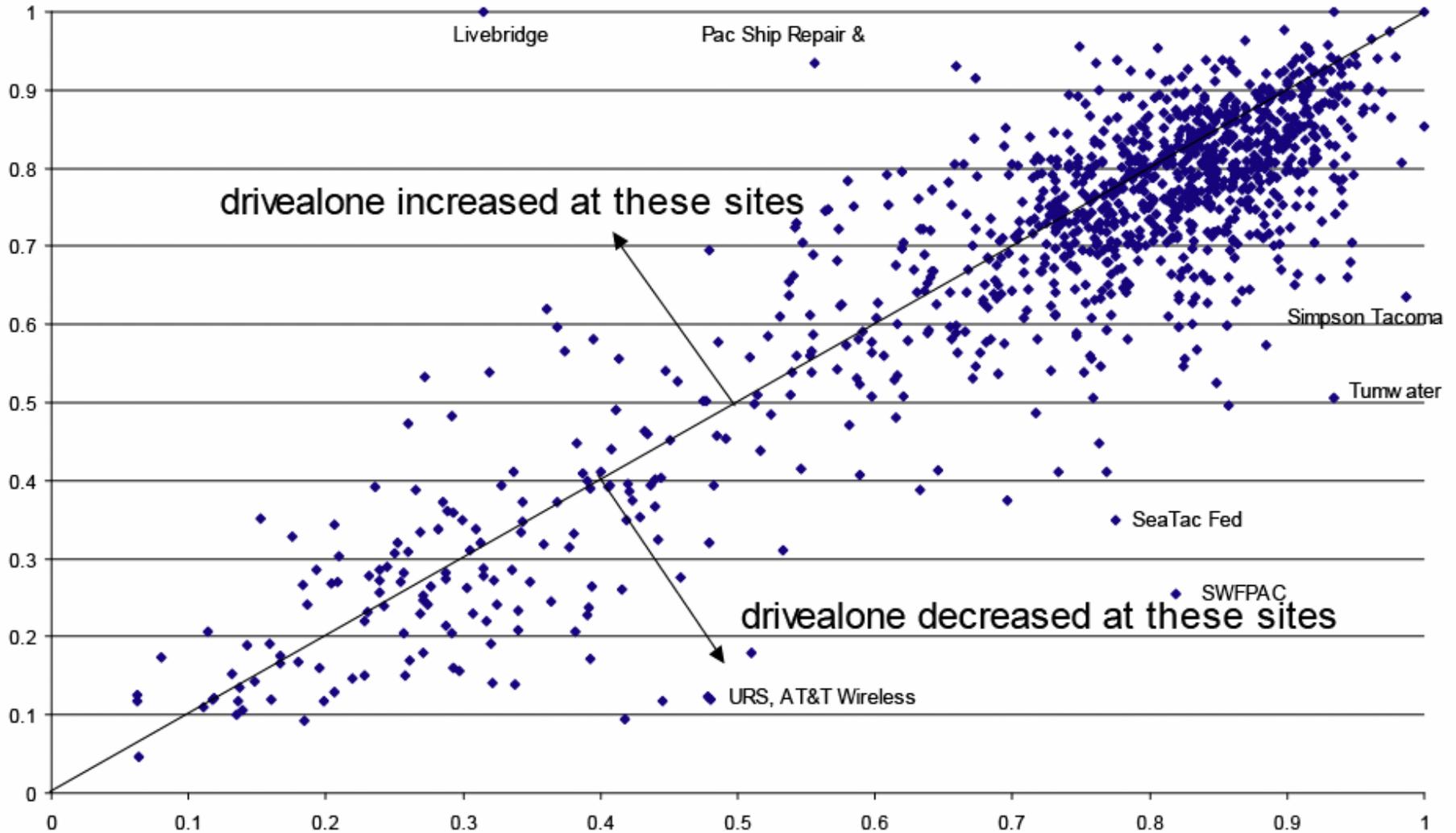
How employees arrive to work at CTR sites

Percent of employee commute trips

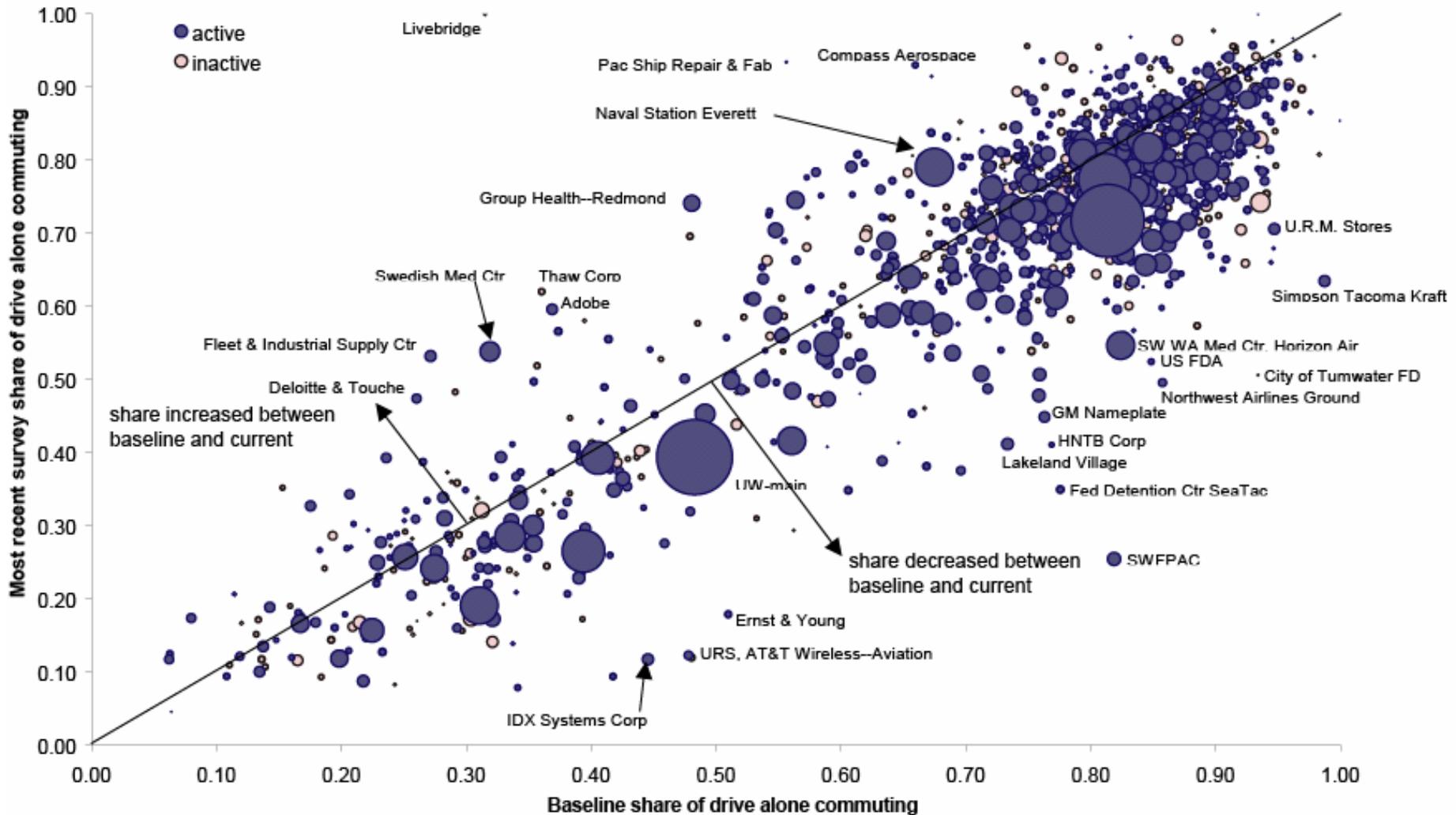


Variation in drive alone change by site

All sites that have ever been in the program

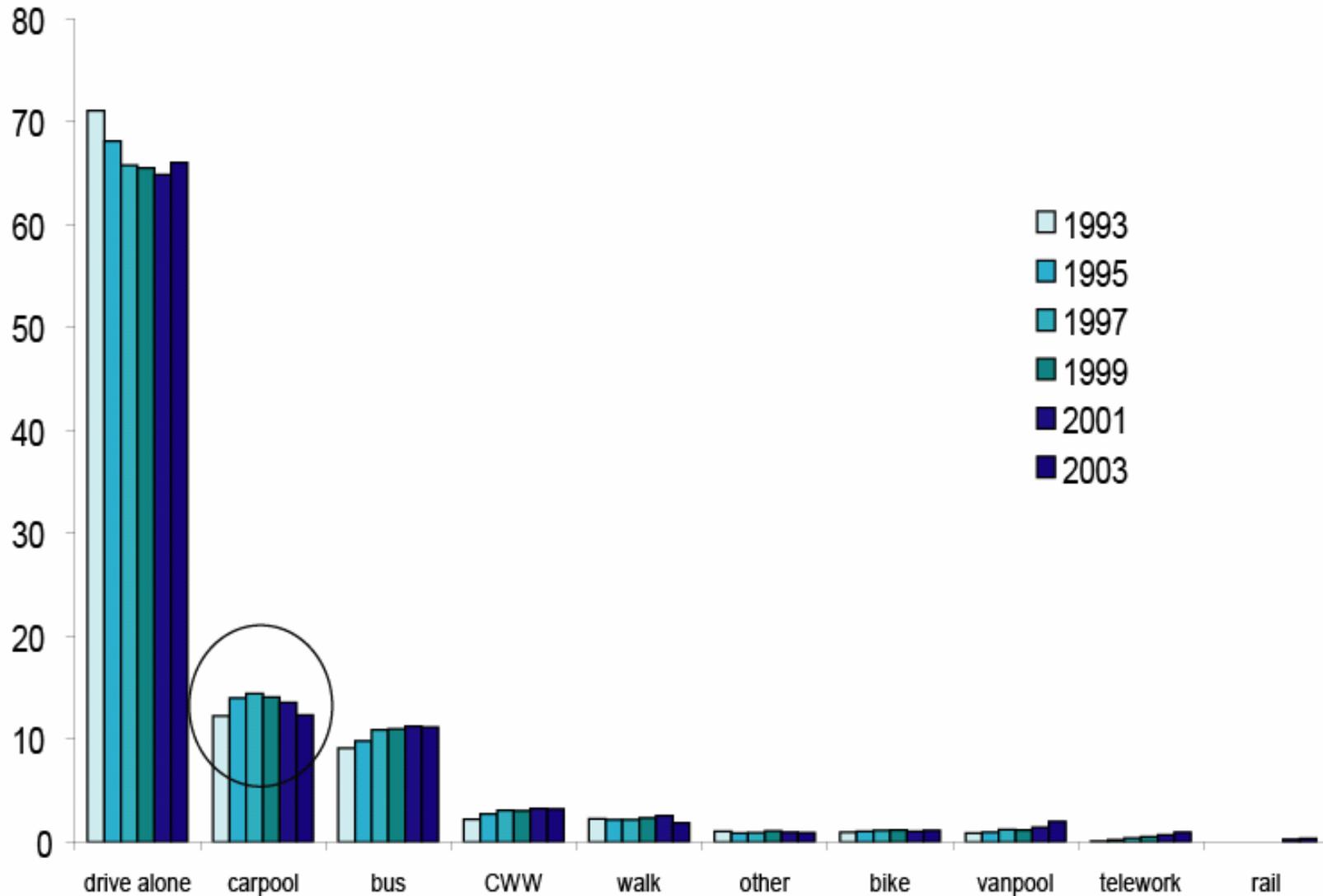


Change in drive alone commuting by site



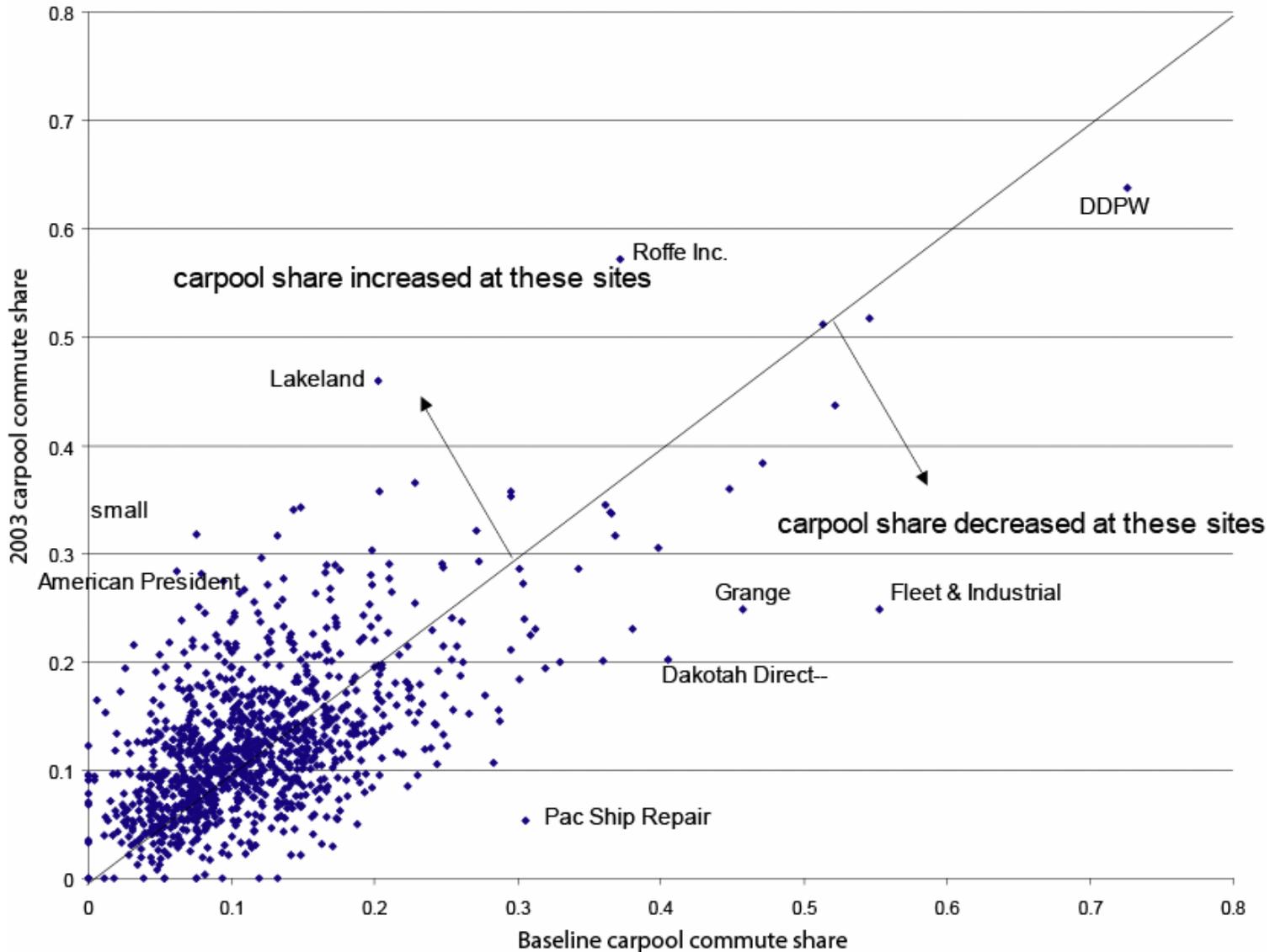
How employees arrive to work at CTR sites

Percent of employee commute trips



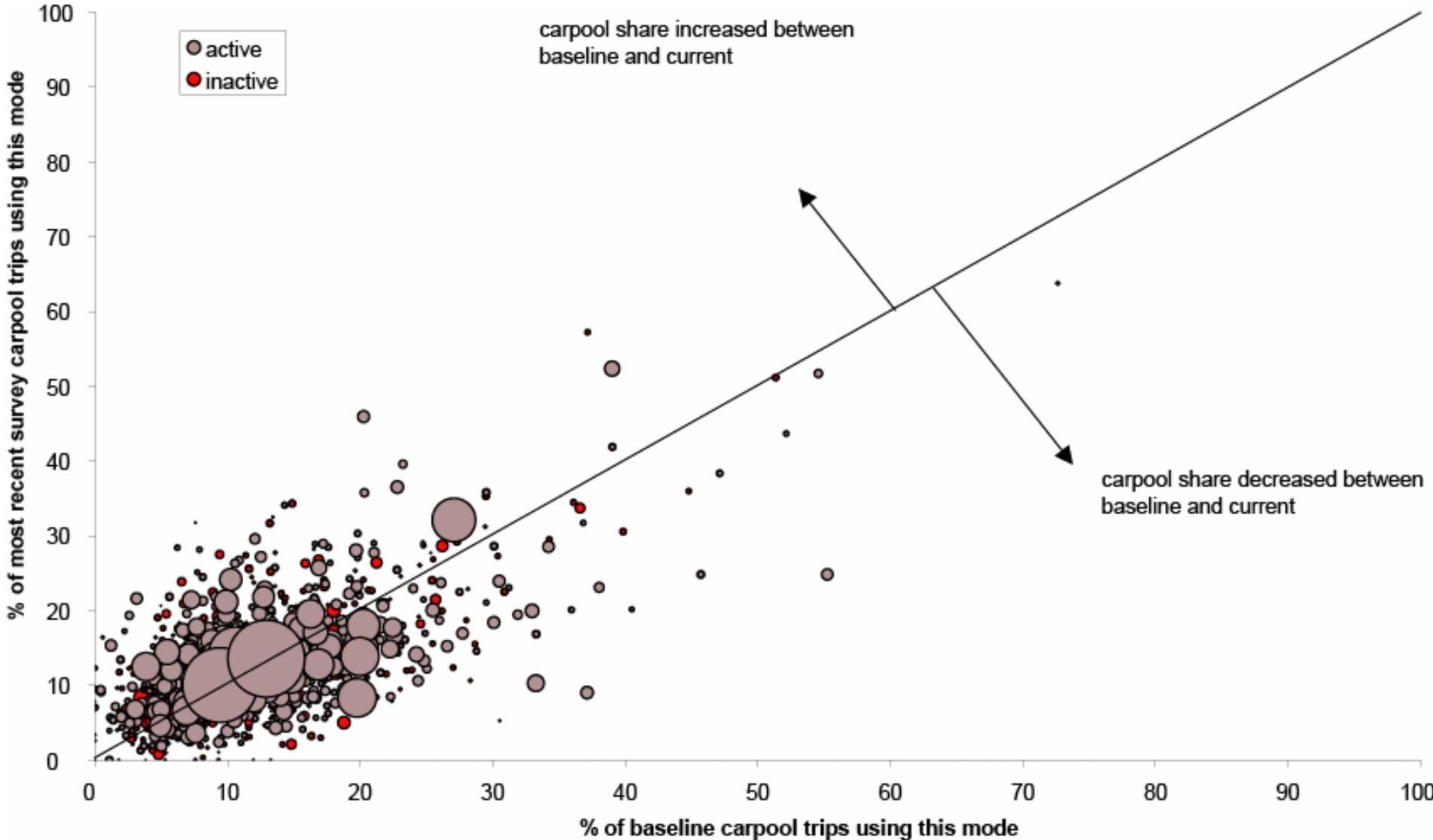
Variation in carpool change by site

All sites that have ever been in the program



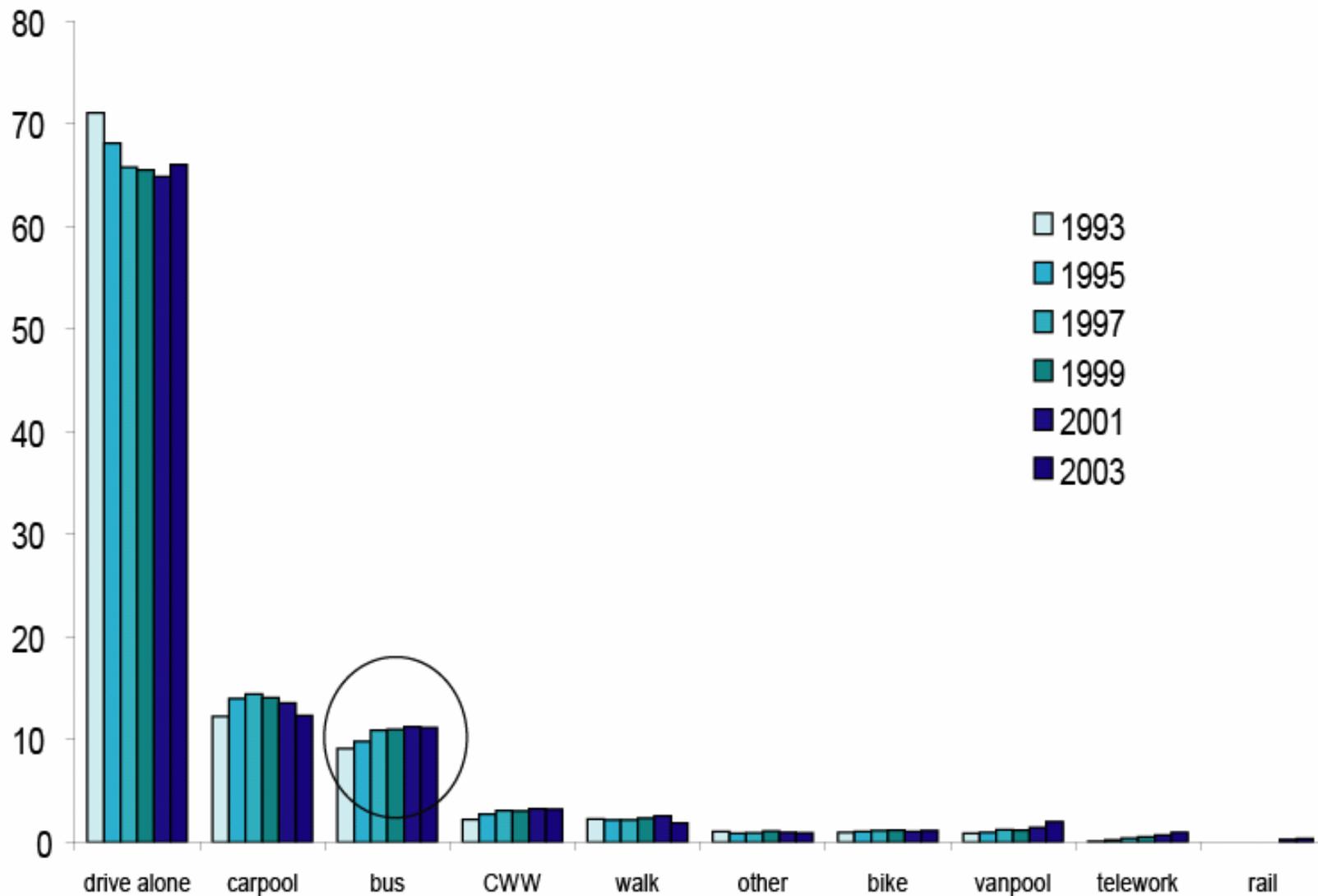
Variation in carpool change by site

All sites that have ever been in the program



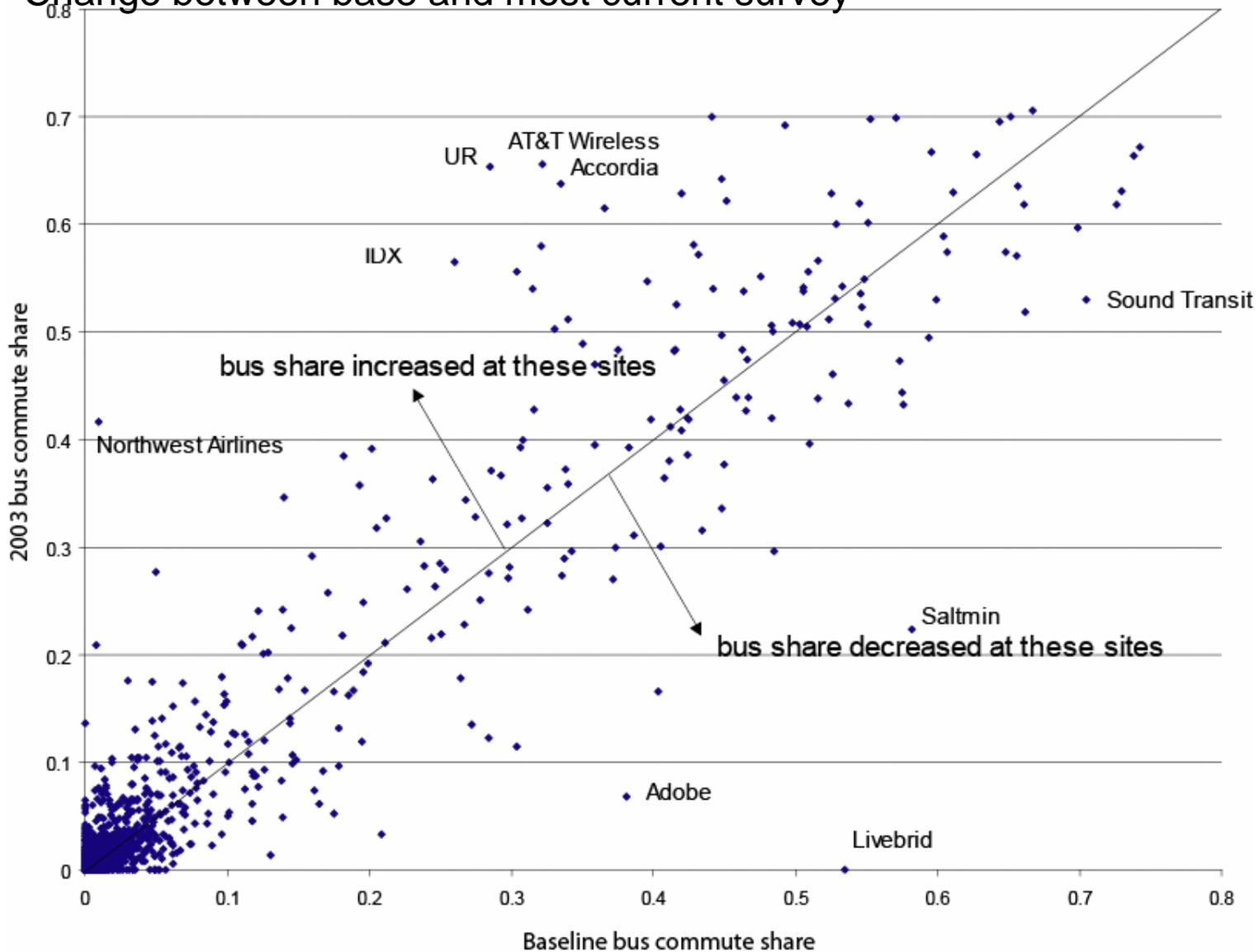
How employees arrive to work at CTR sites

Percent of employee commute trips



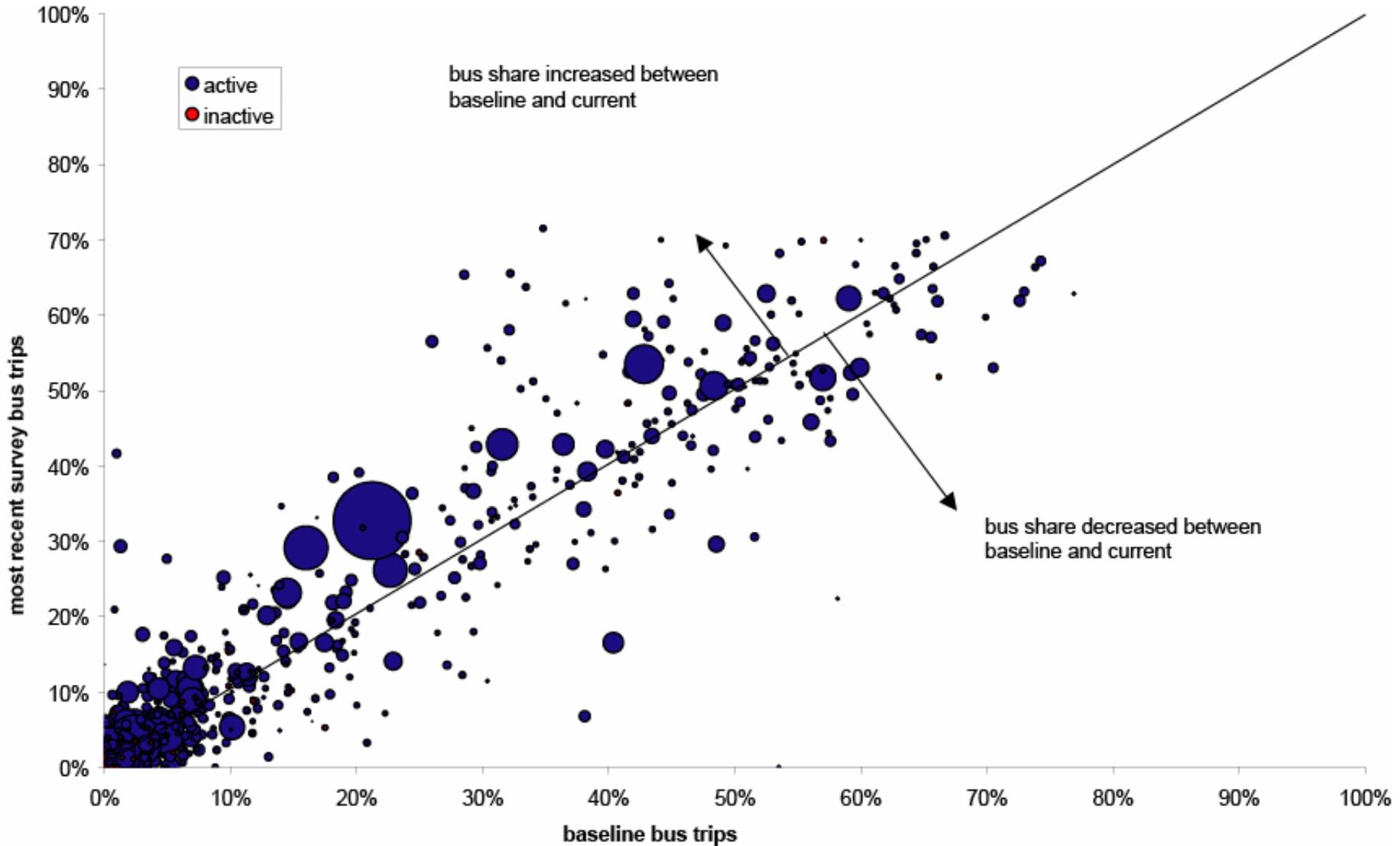
Variation in bus change by site

Change between base and most current survey



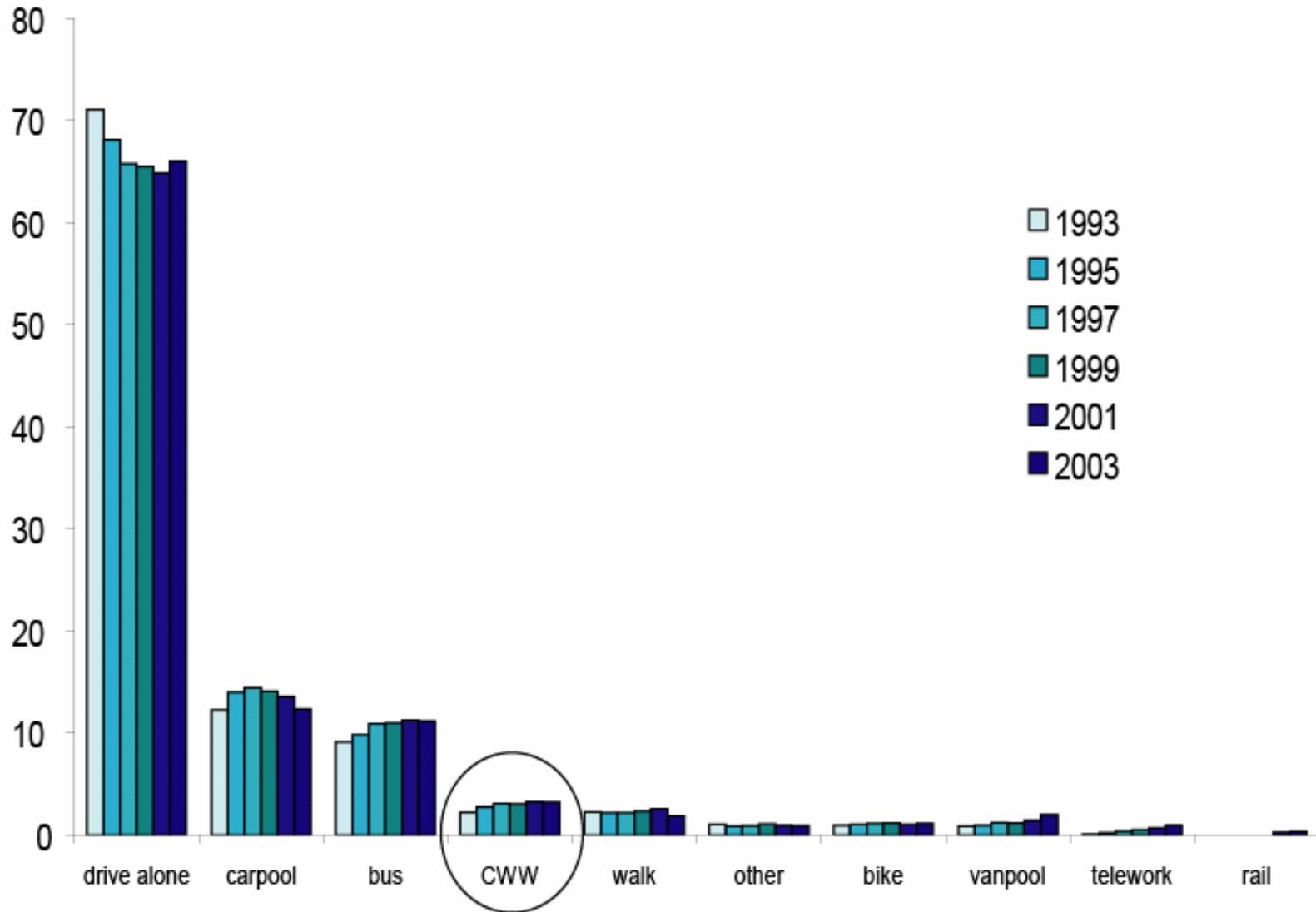
Variation in bus change by site

All sites that have ever been in the program

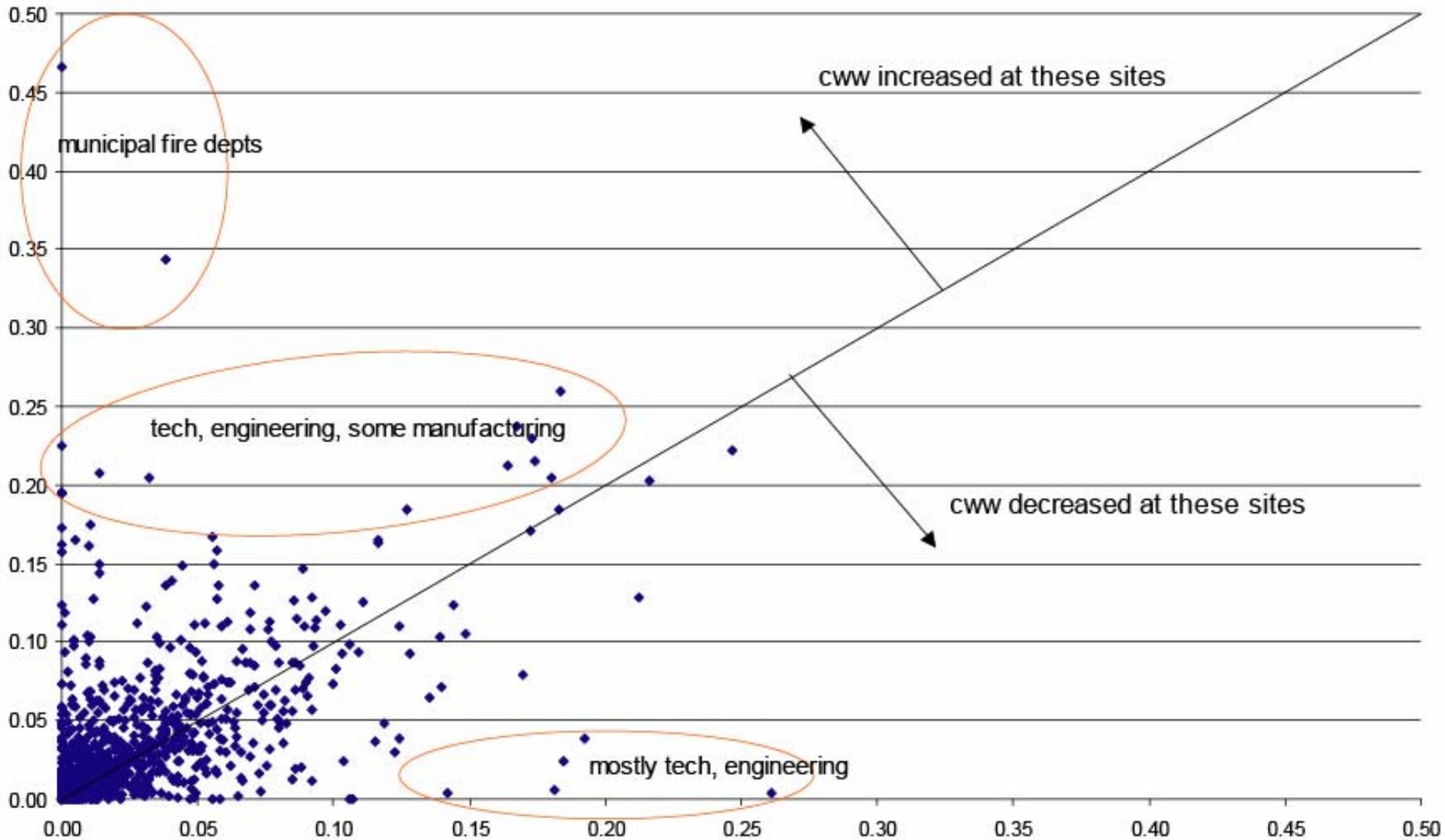


How employees arrive to work at CTR sites

Percent of employee commute trips

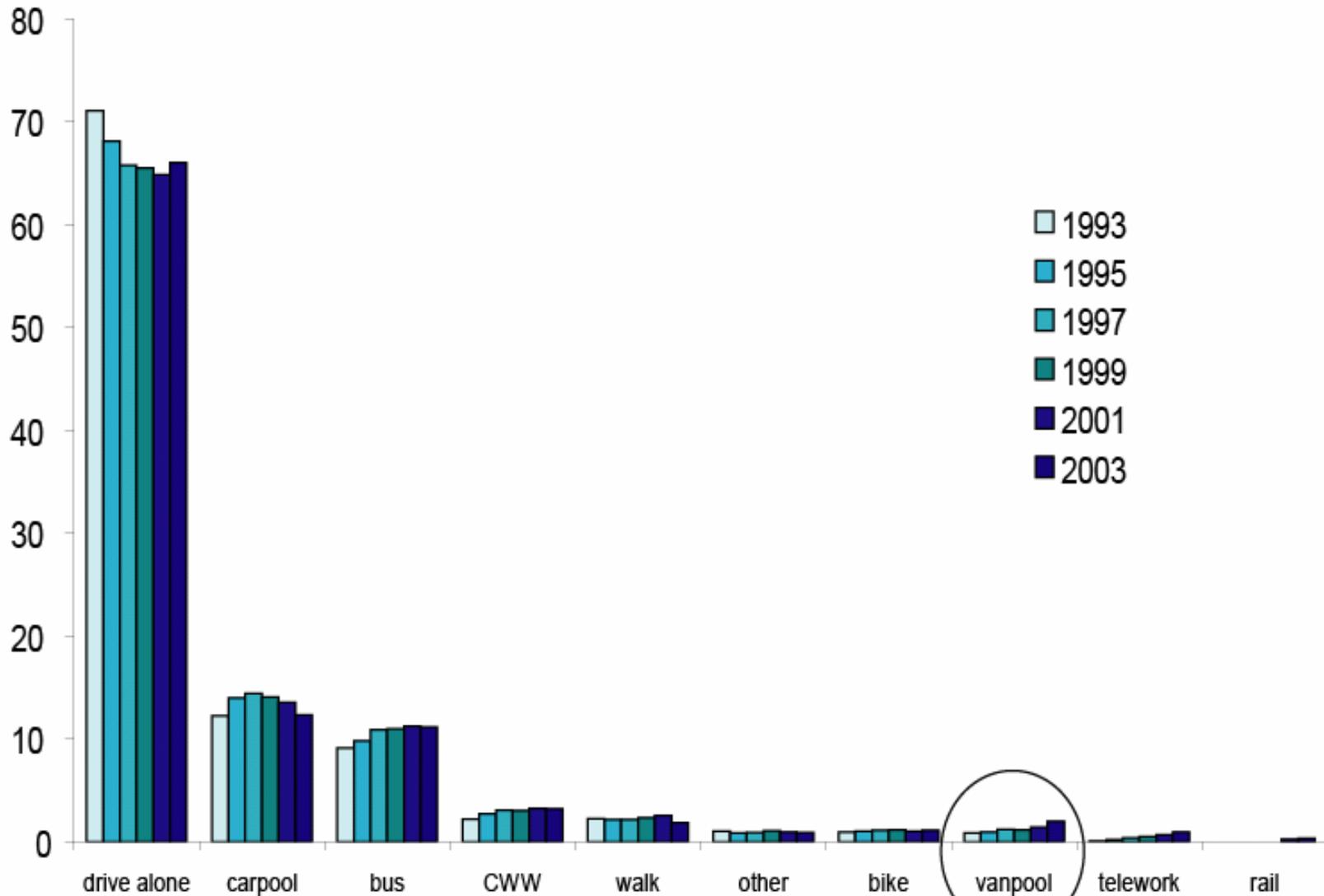


Variation in CWW change by site



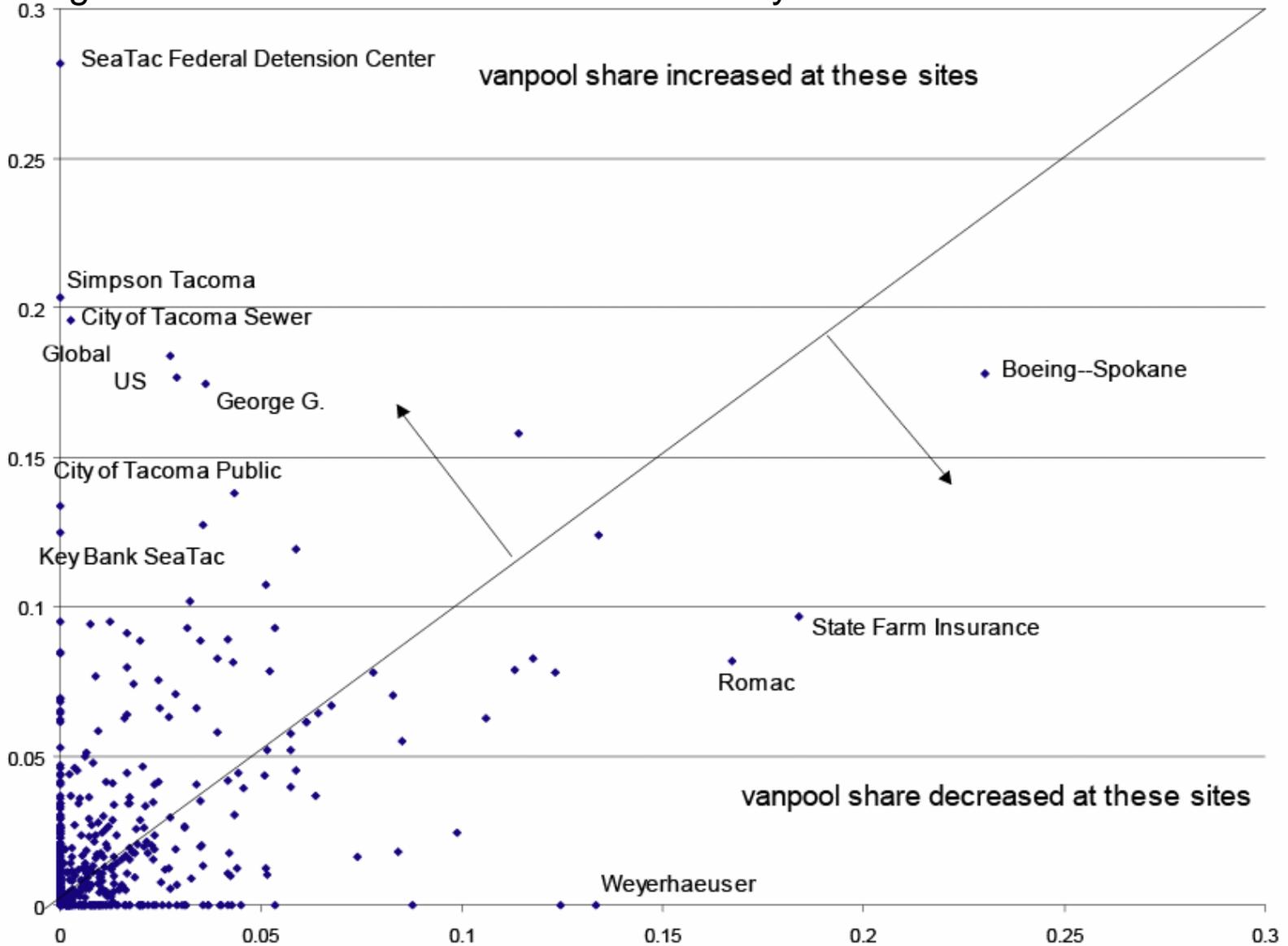
How employees arrive to work at CTR sites

Percent of employee commute trips



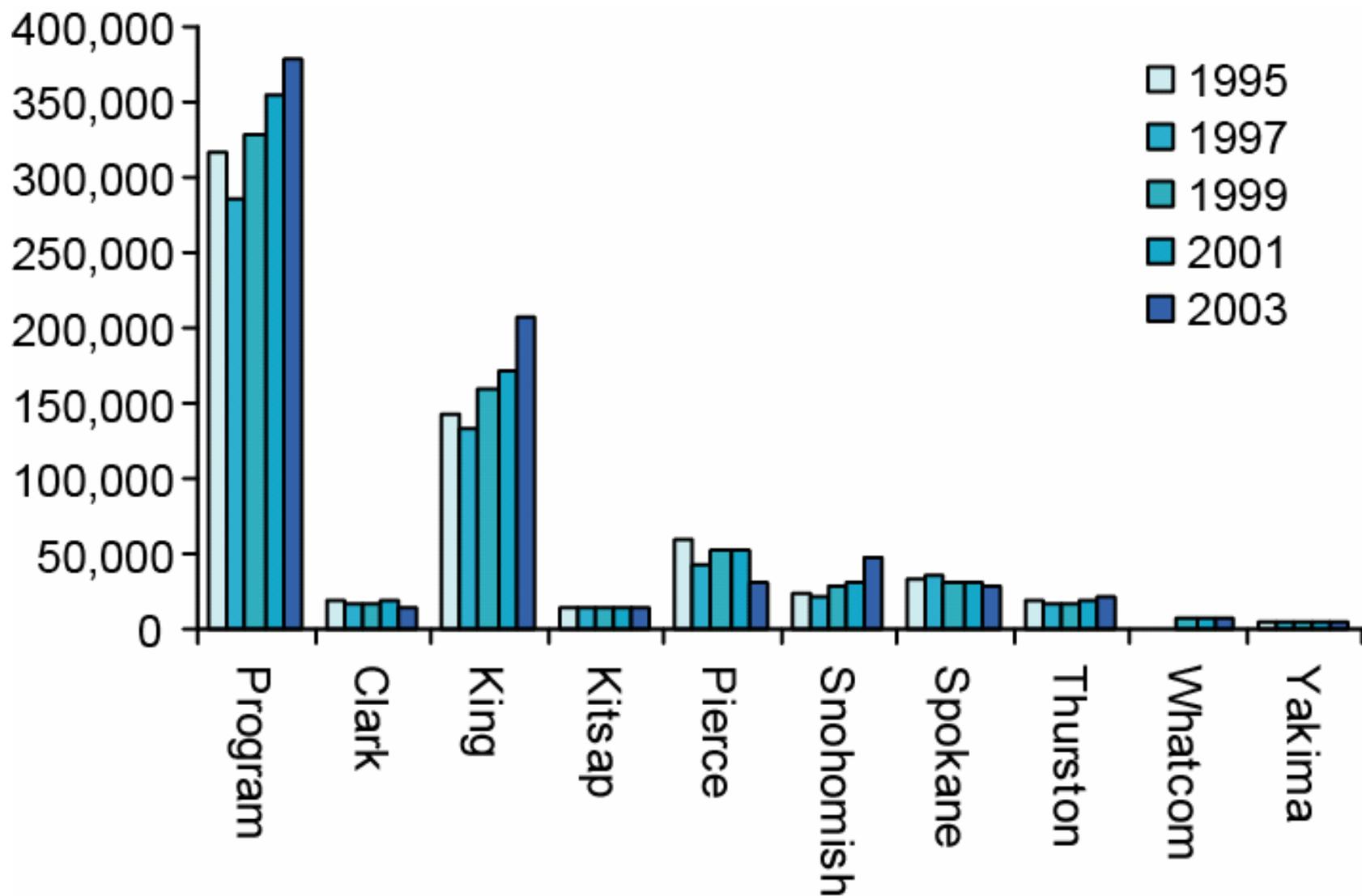
Variation in vanpool change by site

Change between base and most current survey



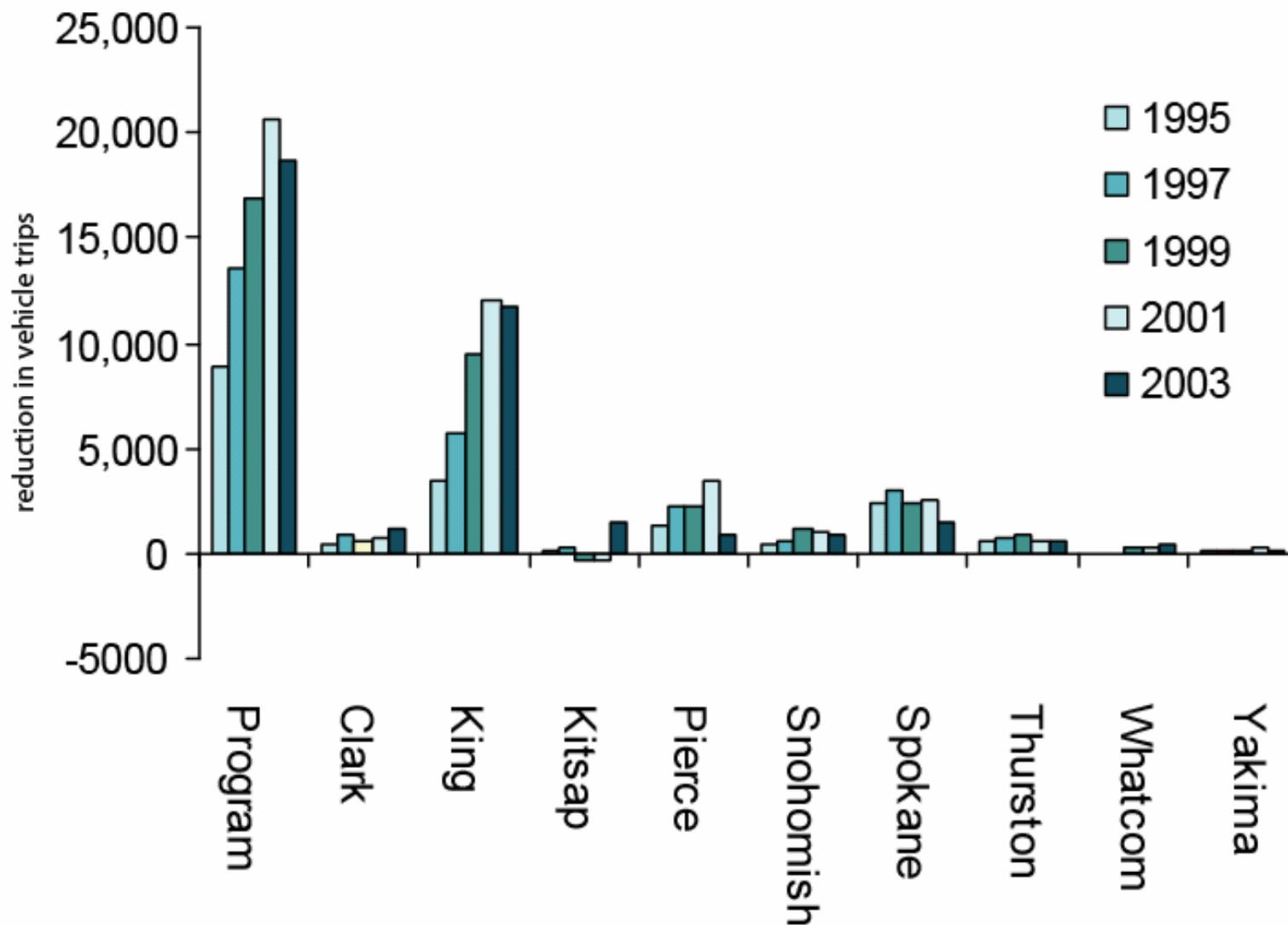
Change in vehicle trips

Estimated total vehicle trips to CTR sites: without CTR

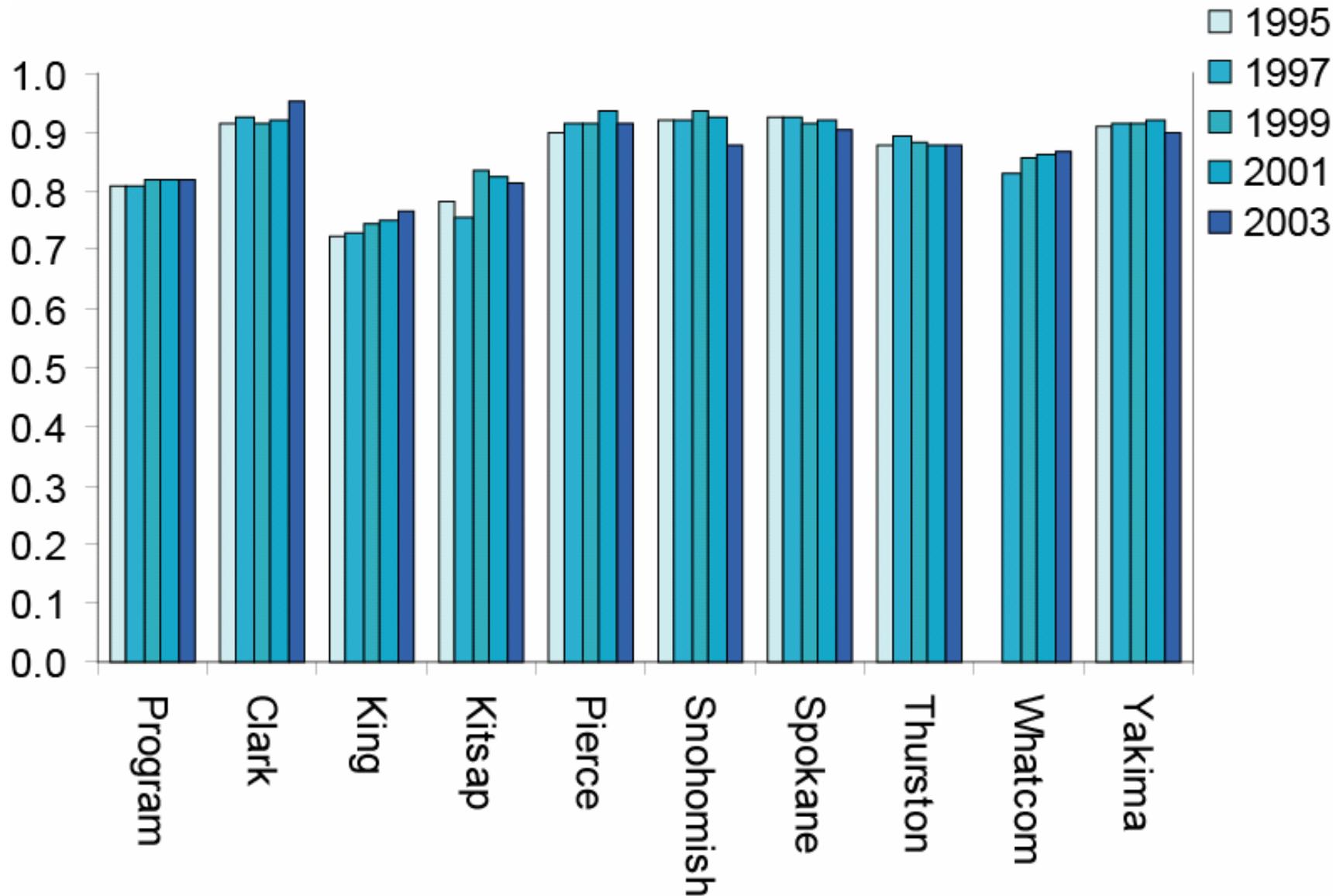


Change in vehicle trips at CTR sites

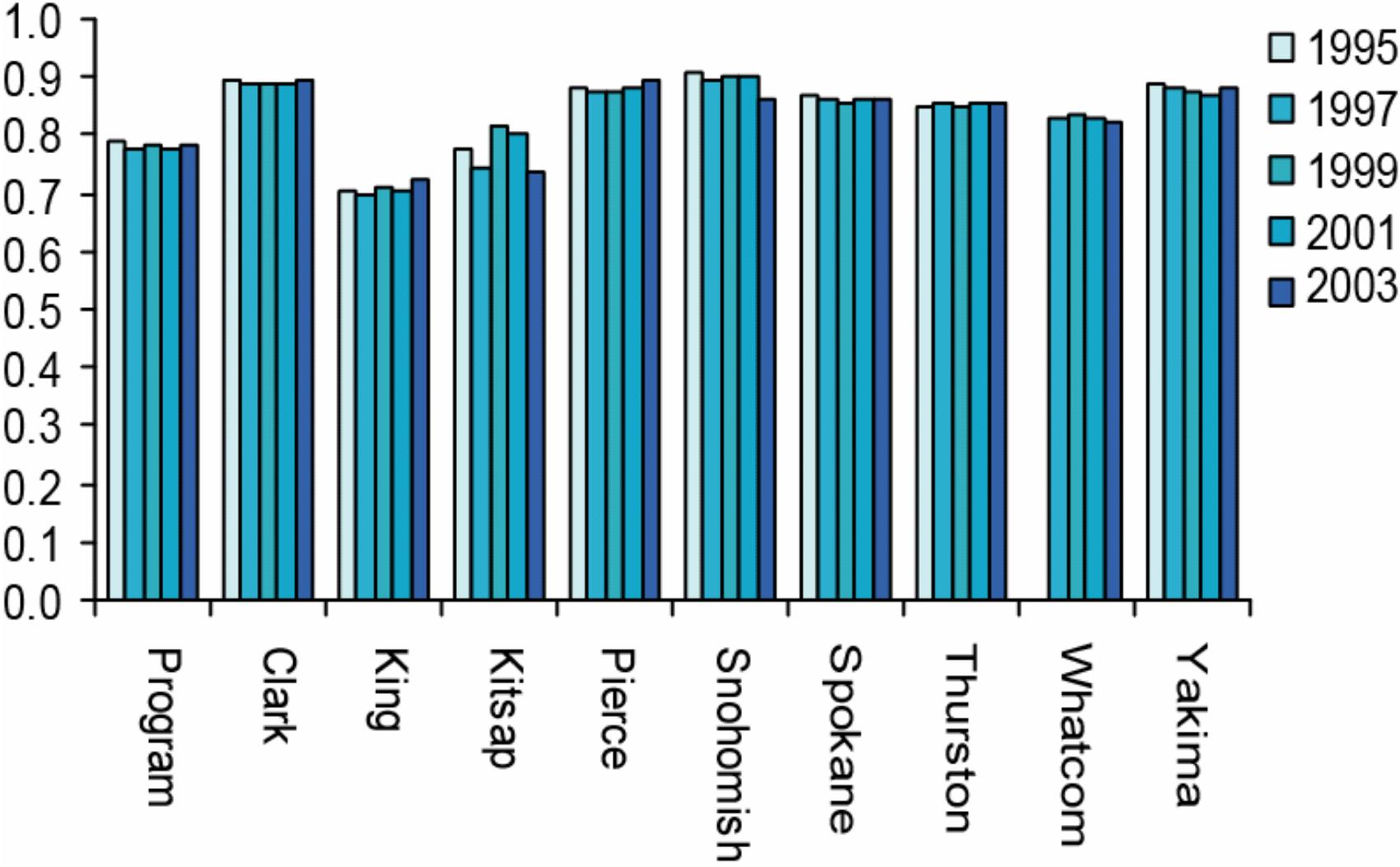
Daily change in trips between baseline and biennial survey



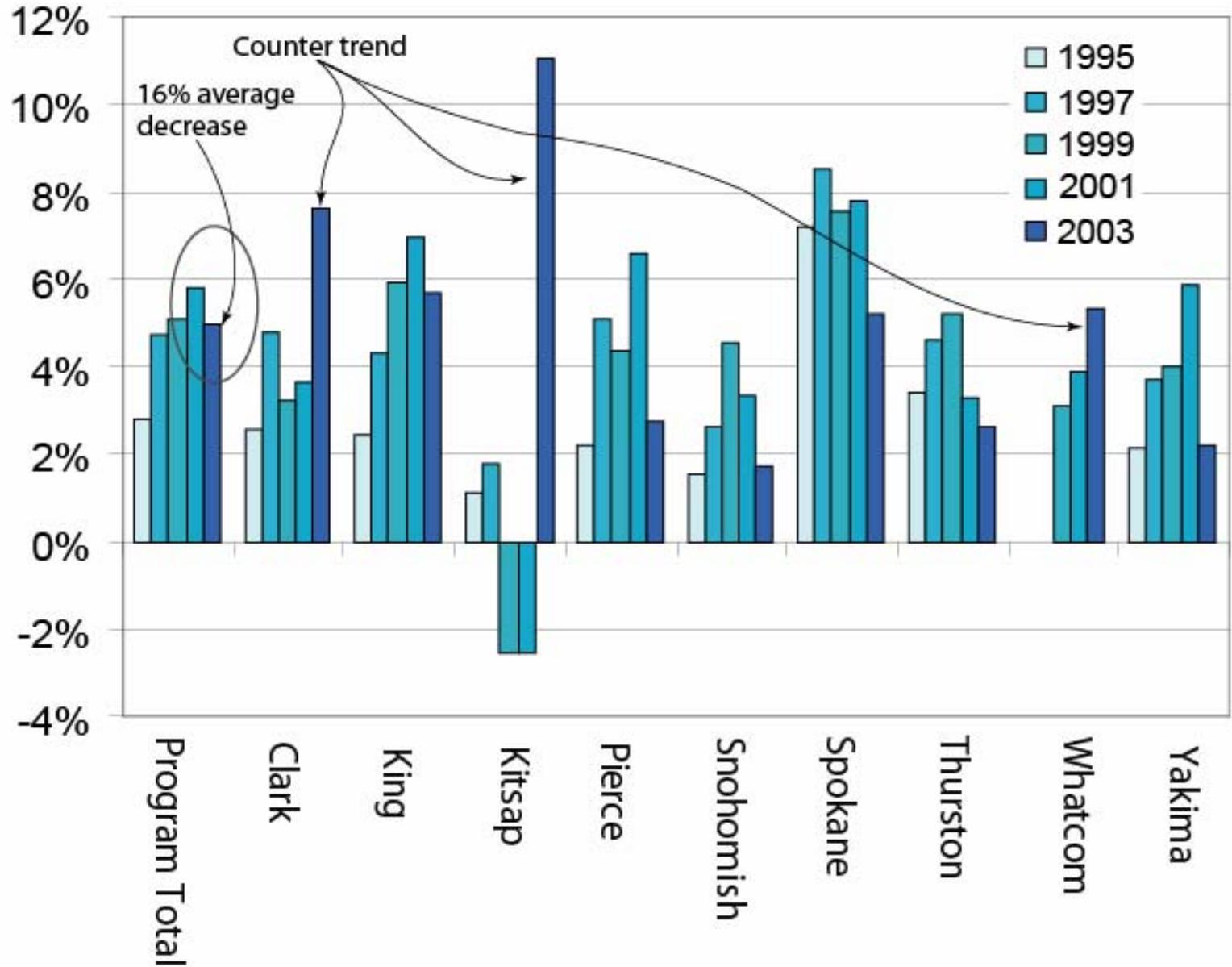
Trips per employee without CTR



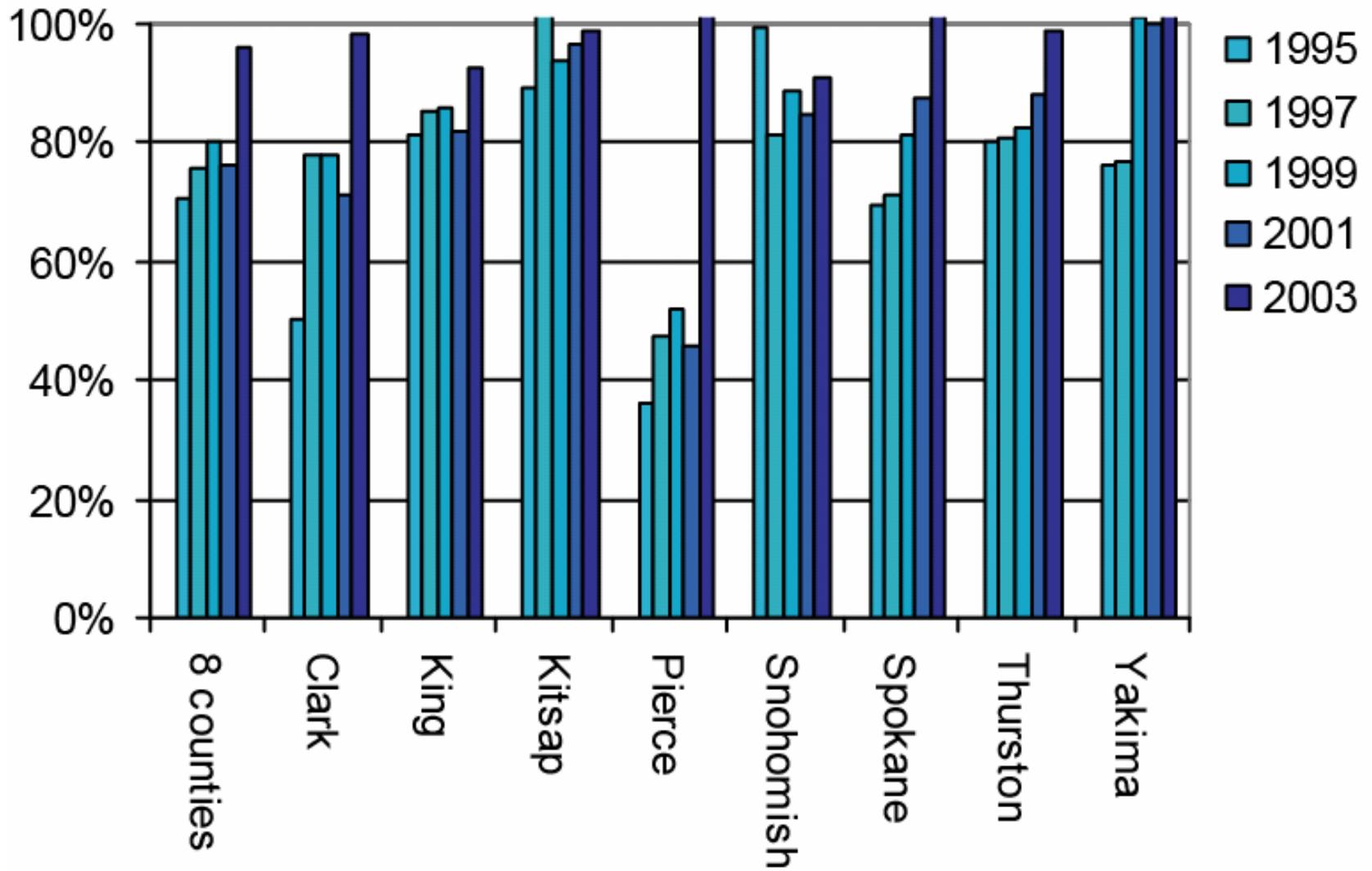
Trips per employee with CTR



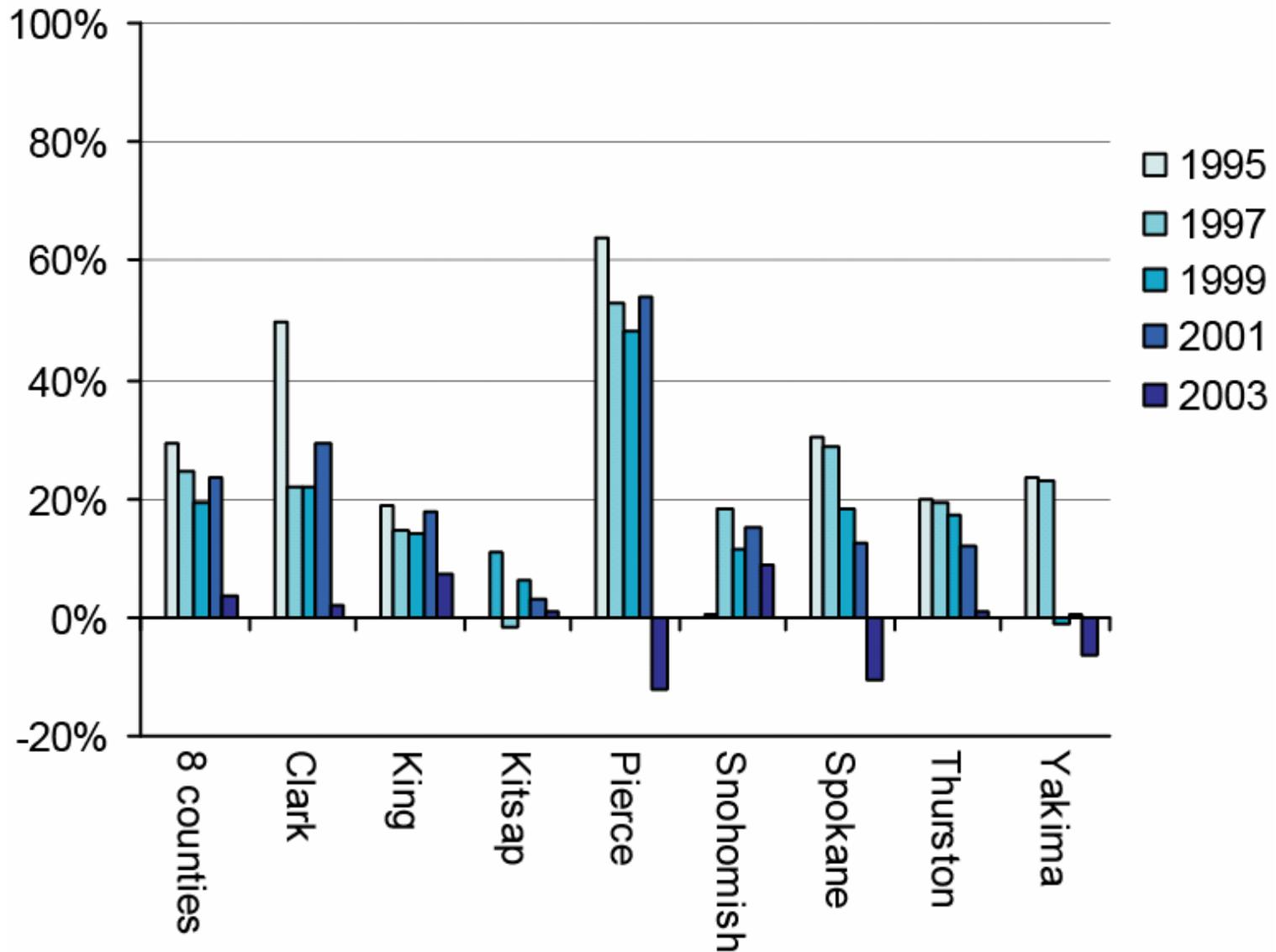
Reduced trips as a percent of total trips at CTR sites



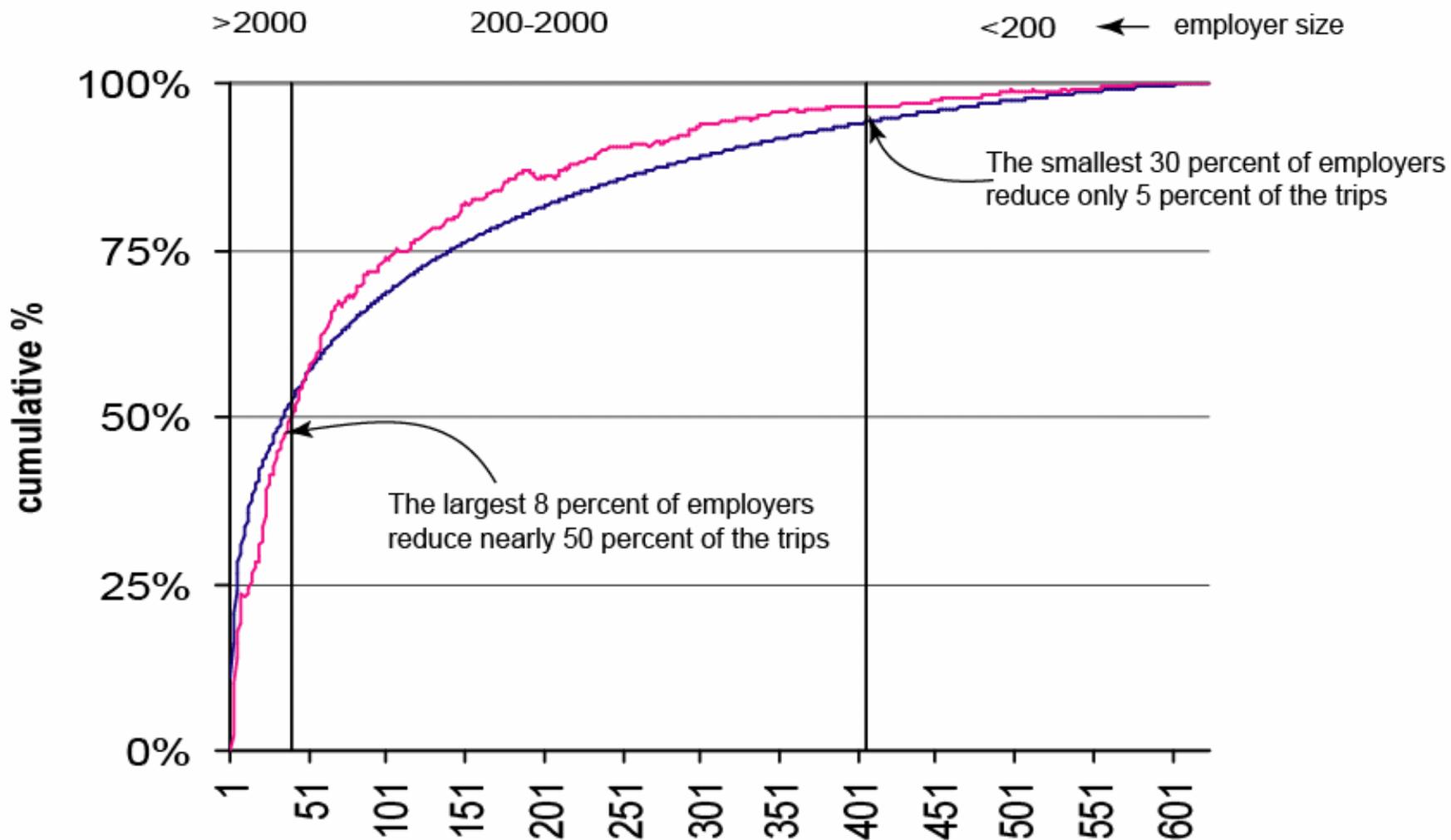
Percent of program trip reduction accruing at original sites that surveyed in 2003



Percent of program trip reduction occurring at remaining sites



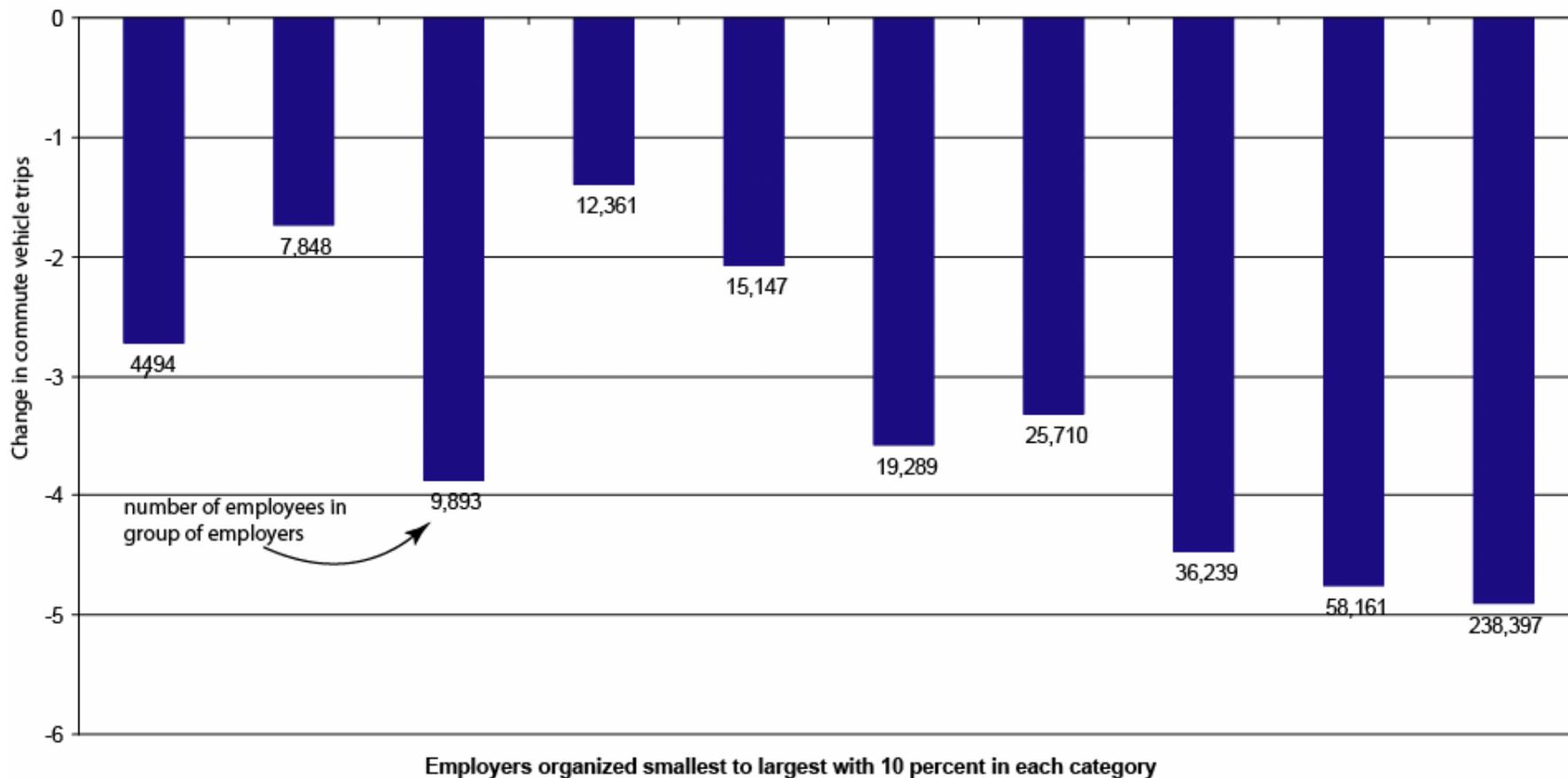
Trips reduced by employees at large employers dominate the impacts



The efficiency in reducing trips increases with employer size

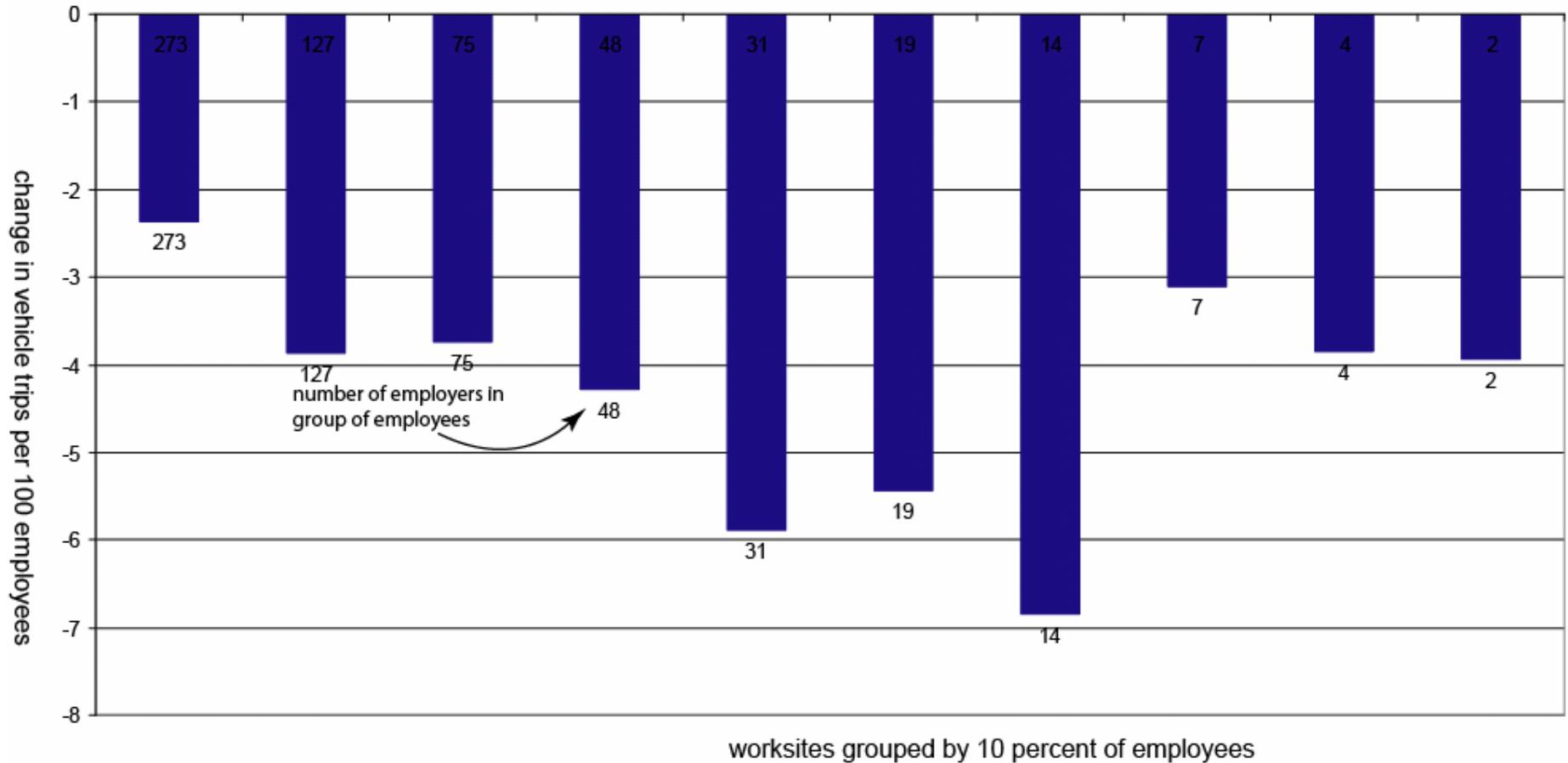
Trips reduced per 100 employees

Base year to 2003

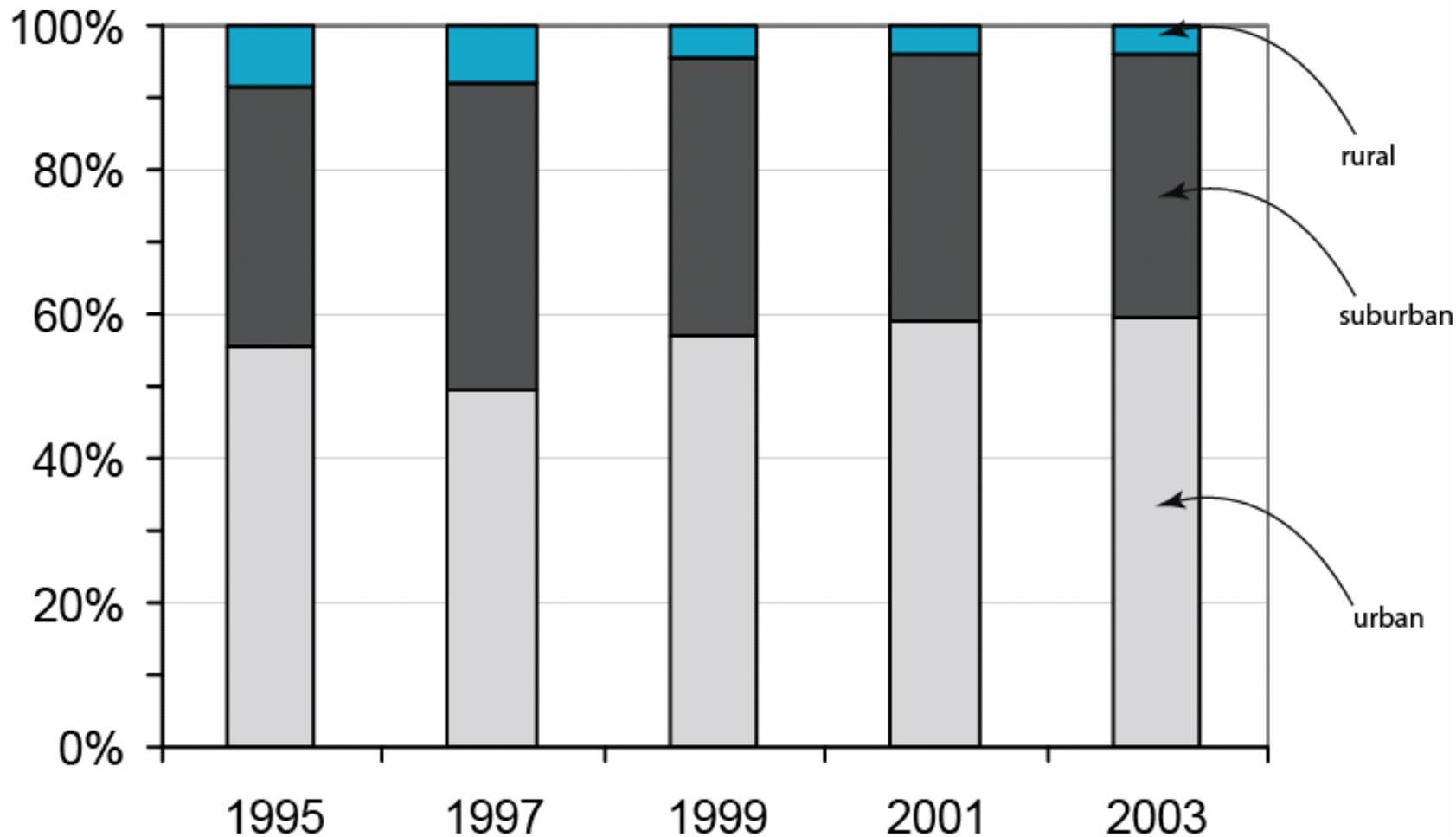


Efficiency in reducing vehicle trips by size

Trips reduced per 100 employees
Base year to 2003

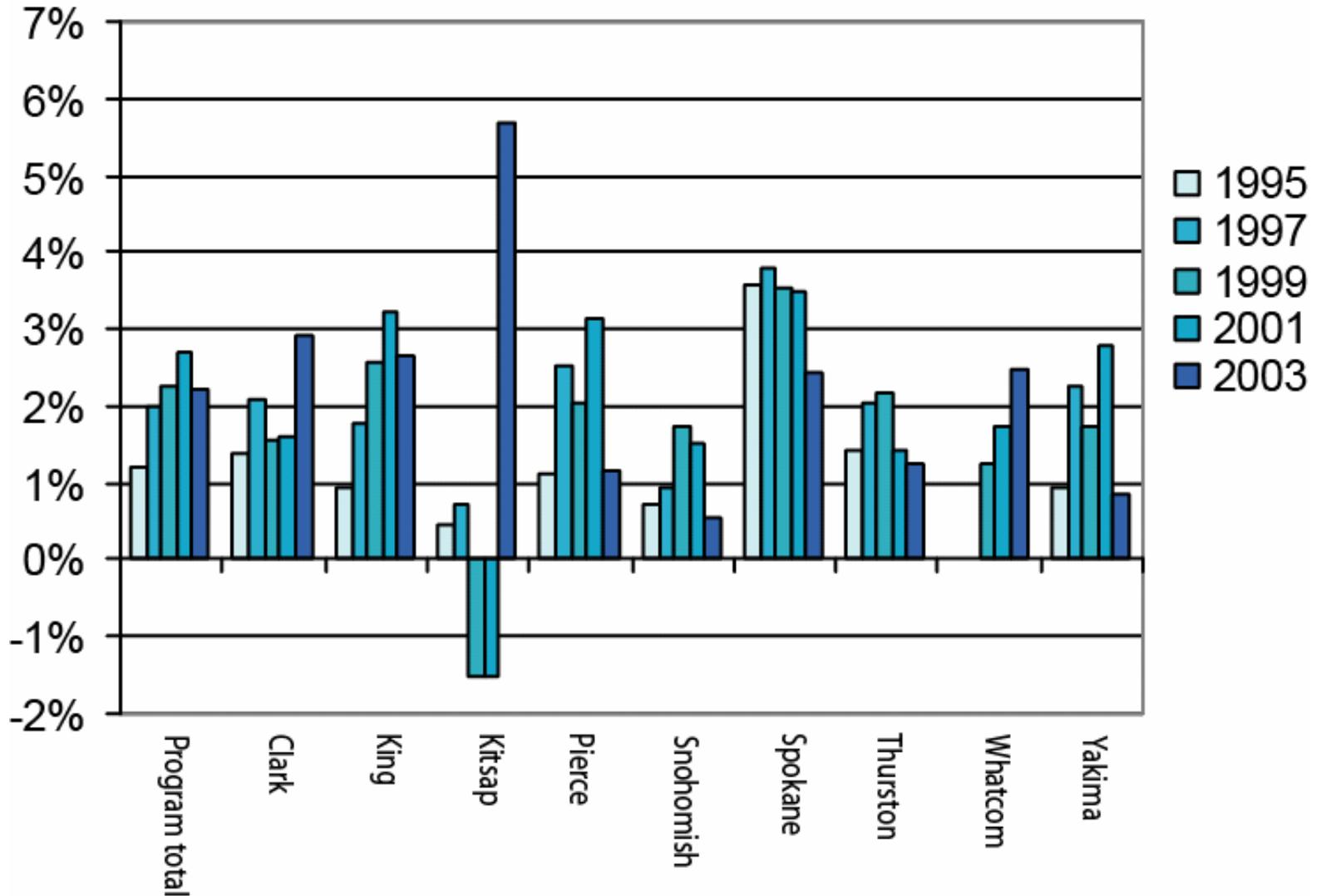


Share of reduced trips by geographic classification



Change in vehicle miles traveled

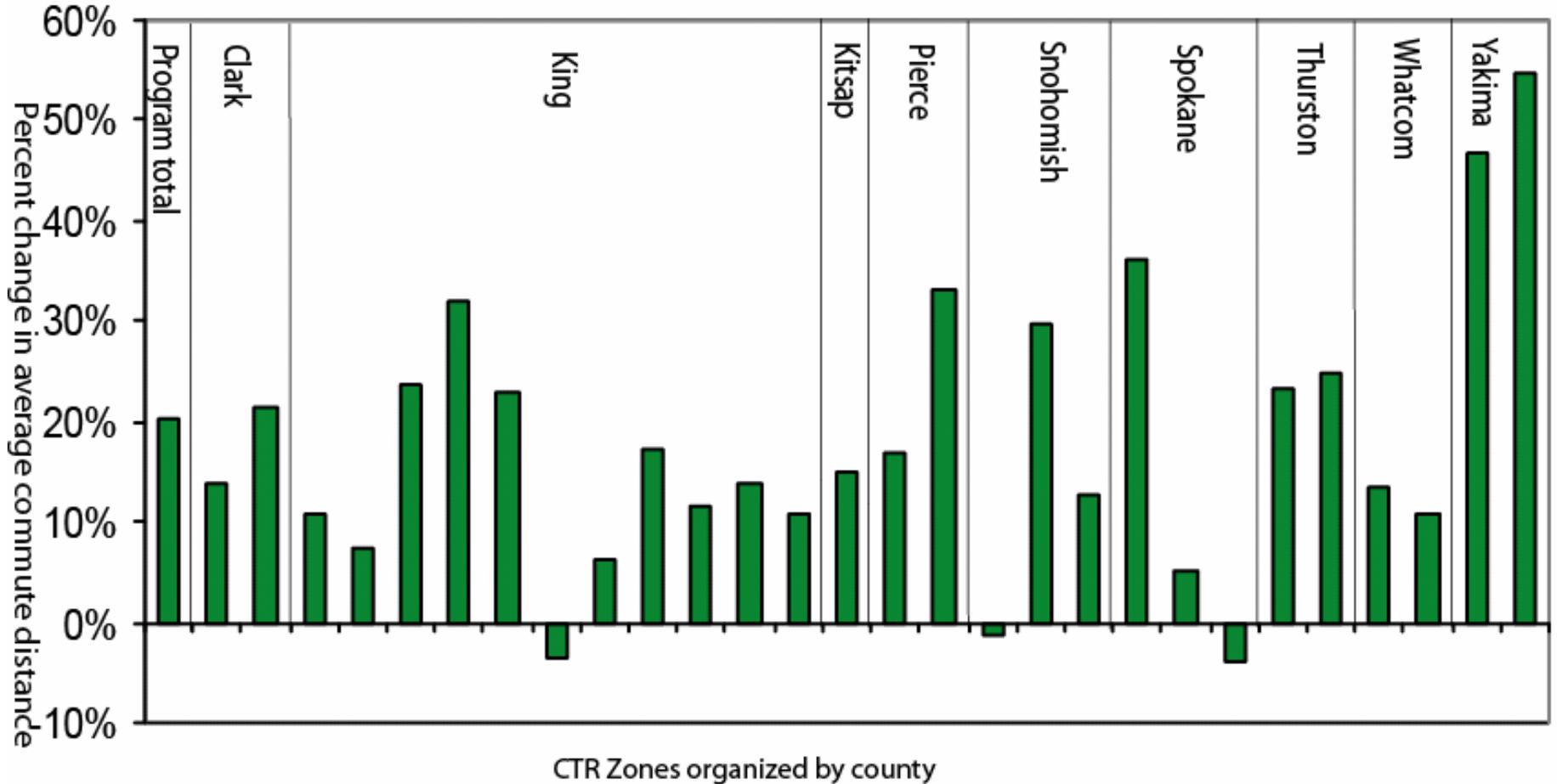
Change in VMT to CTR sites

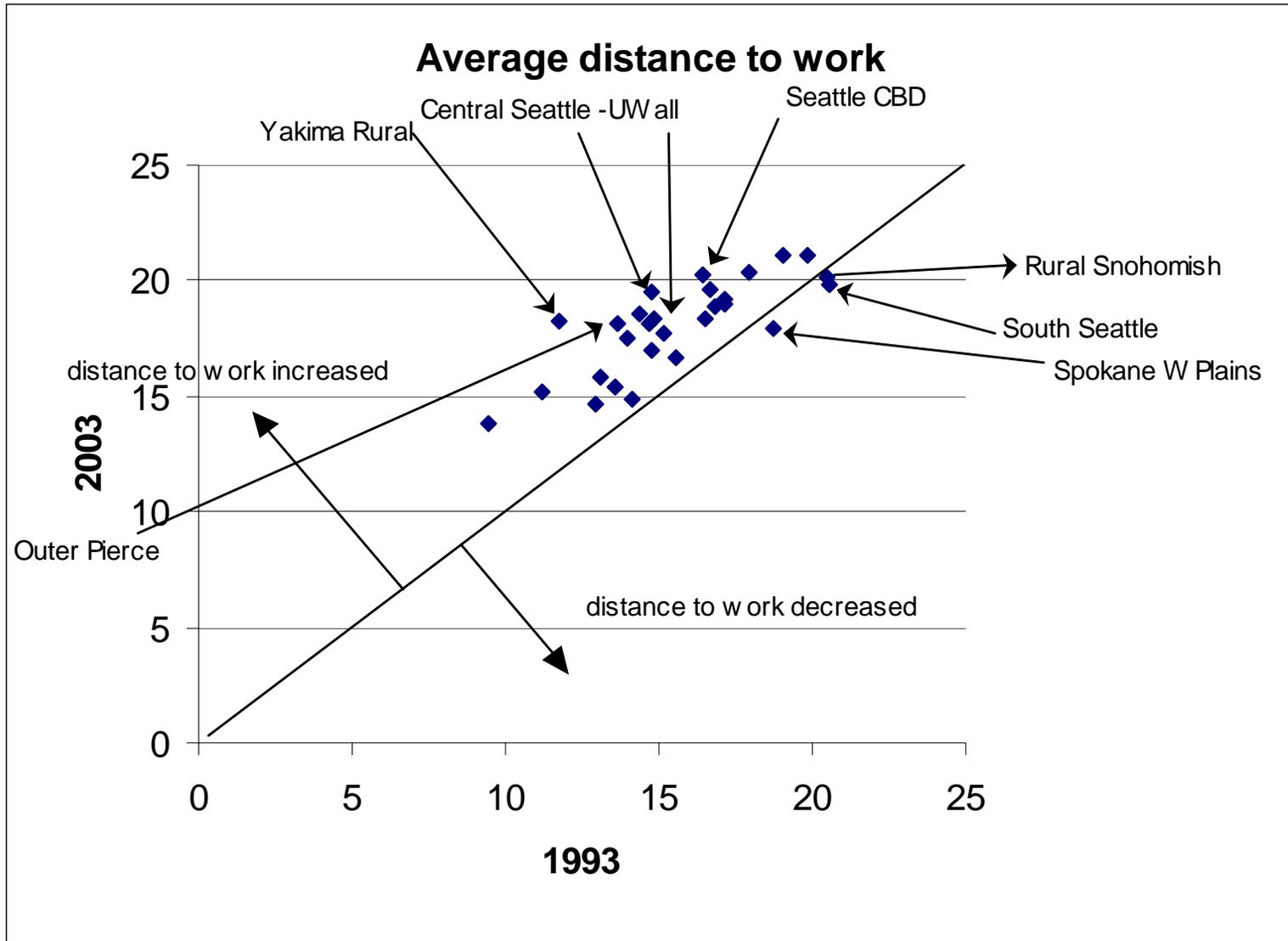


Percent change in average commute distance

Baseline to 2003 survey

By zone in CTR counties





Summary

- CTR works with only 25 percent of employment in the nine counties
- Changes in commute choice and trip reduction varies significantly by worksite and by county
- Majority of trips reduced are at the original sites
- Majority of trips reduced are at largest employers
- Larger sites appear to be more efficient in reducing vehicle trips

Questions

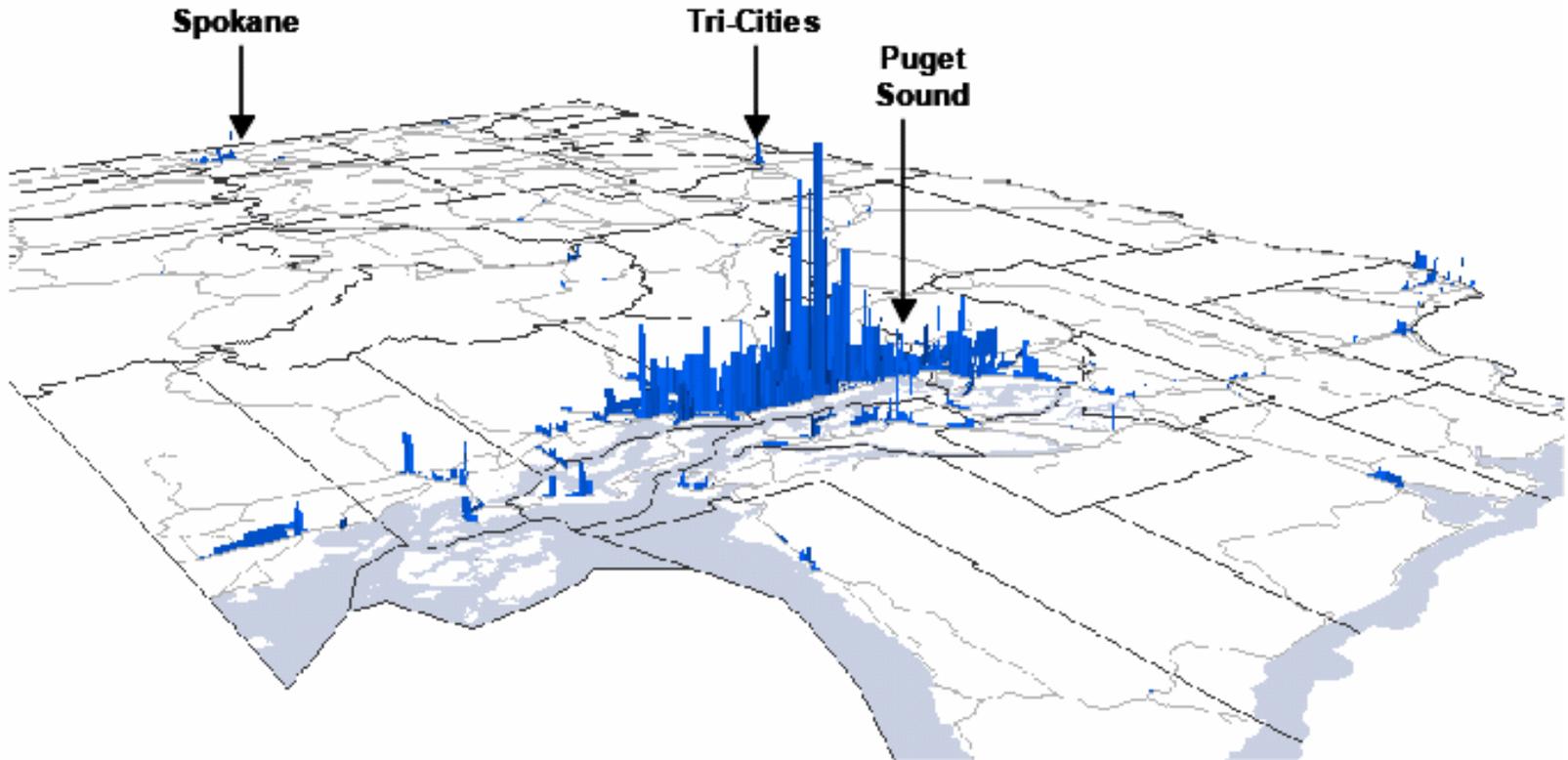
- Why are the newer sites so much less effective?
- Are commute distances increasing in general?
- Are CTR sites in congested corridors more effective?
- Do incentives work?
- Is trip reduction higher with higher employment density?
- What explains differences in county performance?

- Is demographic data available to look at who is using the alternative modes?

Highway system data

Distribution of peak period traffic delay 2003

Current daily vehicle hours of delay per lane mile



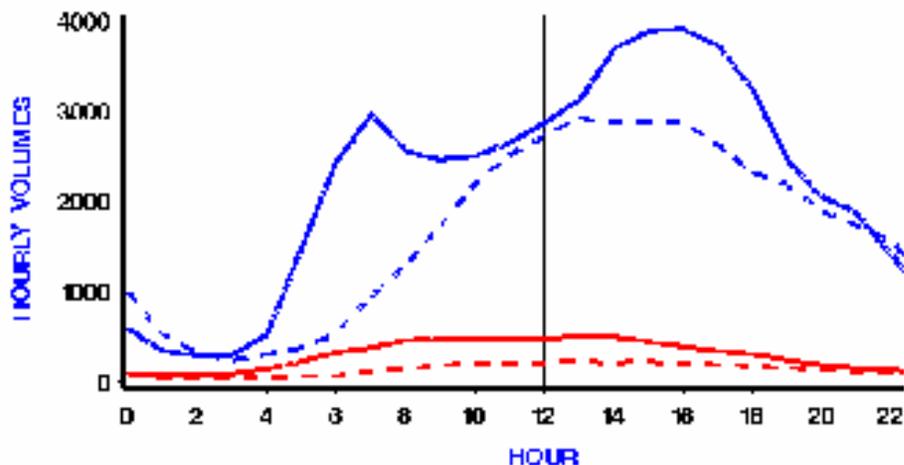
Source: WSDOT.

Source: WSDOT

Traffic volumes for specific highway segments 2003

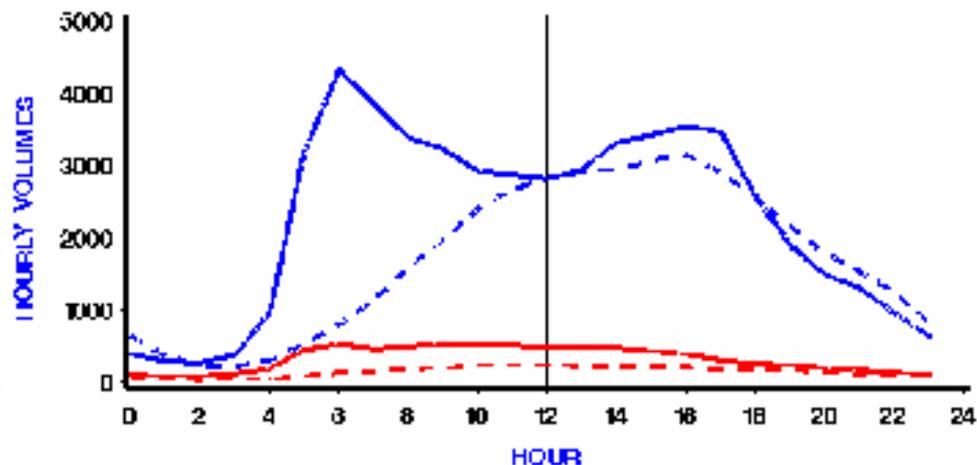
I-5 Everett Northbound

-- 24HR VOLUMES --
TRAFFIC AND TRUCKS
STA=P1N SR=5 MP=184.48 NAME=EVERETT FC=11



I-5 Everett Southbound

-- 24HR VOLUMES --
TRAFFIC AND TRUCKS
STA=P1S SR=5 MP=184.48 NAME=EVERETT FC=11

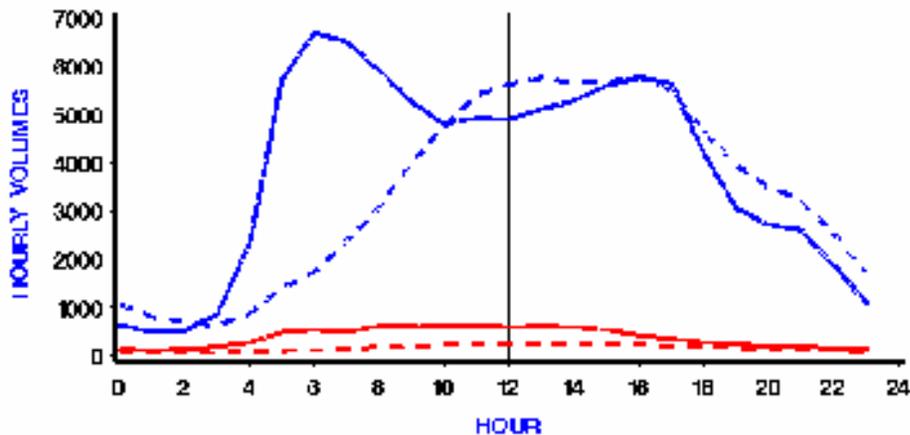


Solid line – Weekdays **Dashed line** – Weekends **Blue** – All Traffic **Red** – All Trucks

Traffic volumes for specific highway segments 2003

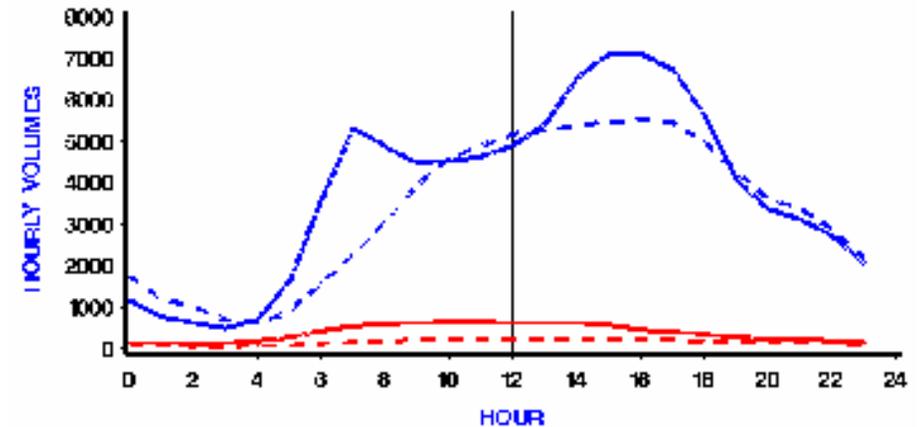
I-5 Fife. Northbound

-- 24HR VOLUMES --
TRAFFIC AND TRUCKS
STA=5637N SR=5 MP=133.8 NAME=FIFE FC=11



I-5 Fife. Southbound

-- 24HR VOLUMES --
TRAFFIC AND TRUCKS
STA=5637S SR=5 MP=138.8 NAME=FIFE FC=11



Solid line – Weekdays

Blue – All Traffic

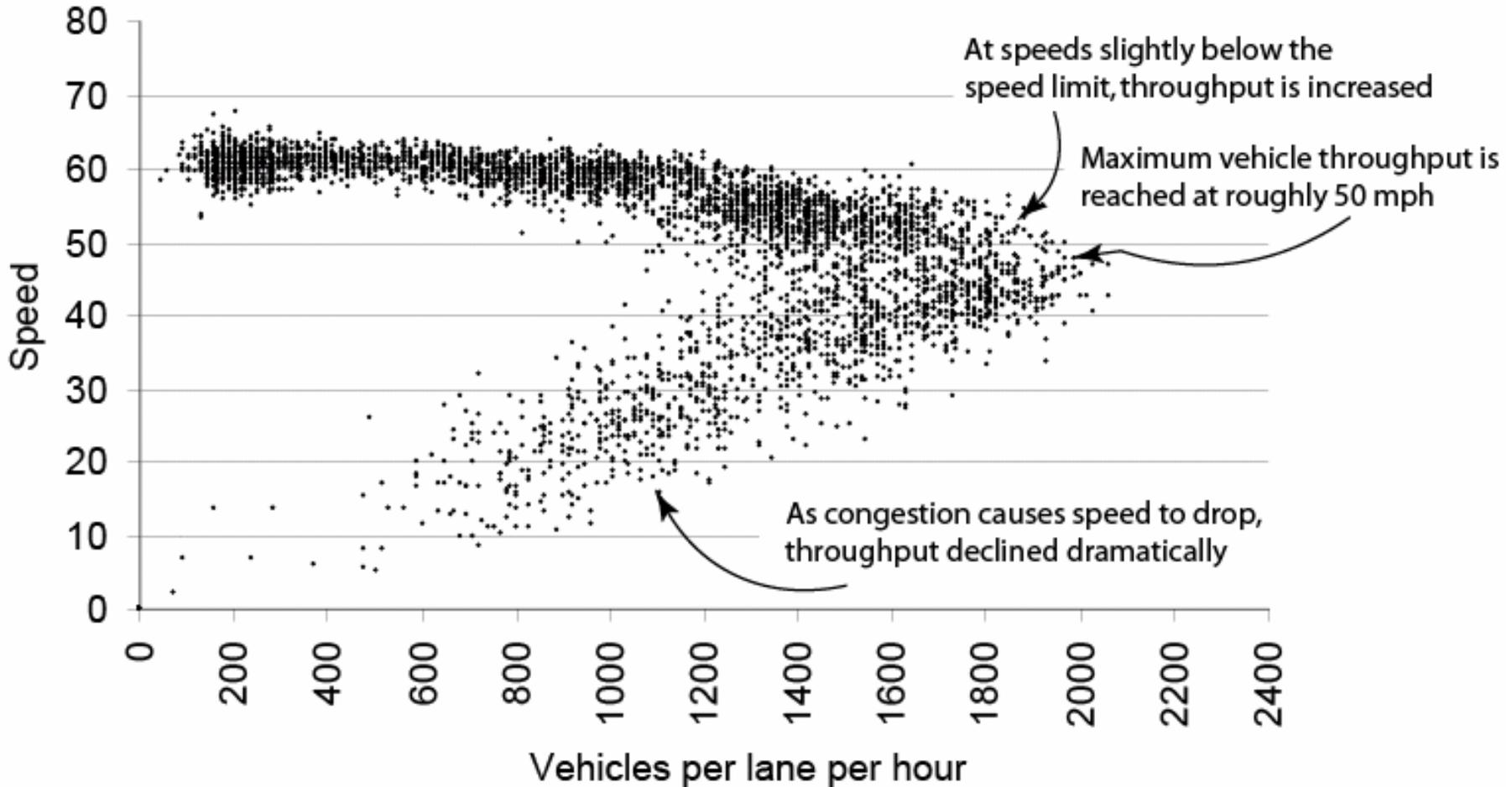
Dashed line – Weekends

Red – All Trucks

Highway volume and speed relationship

Five minute measurements, May 2001

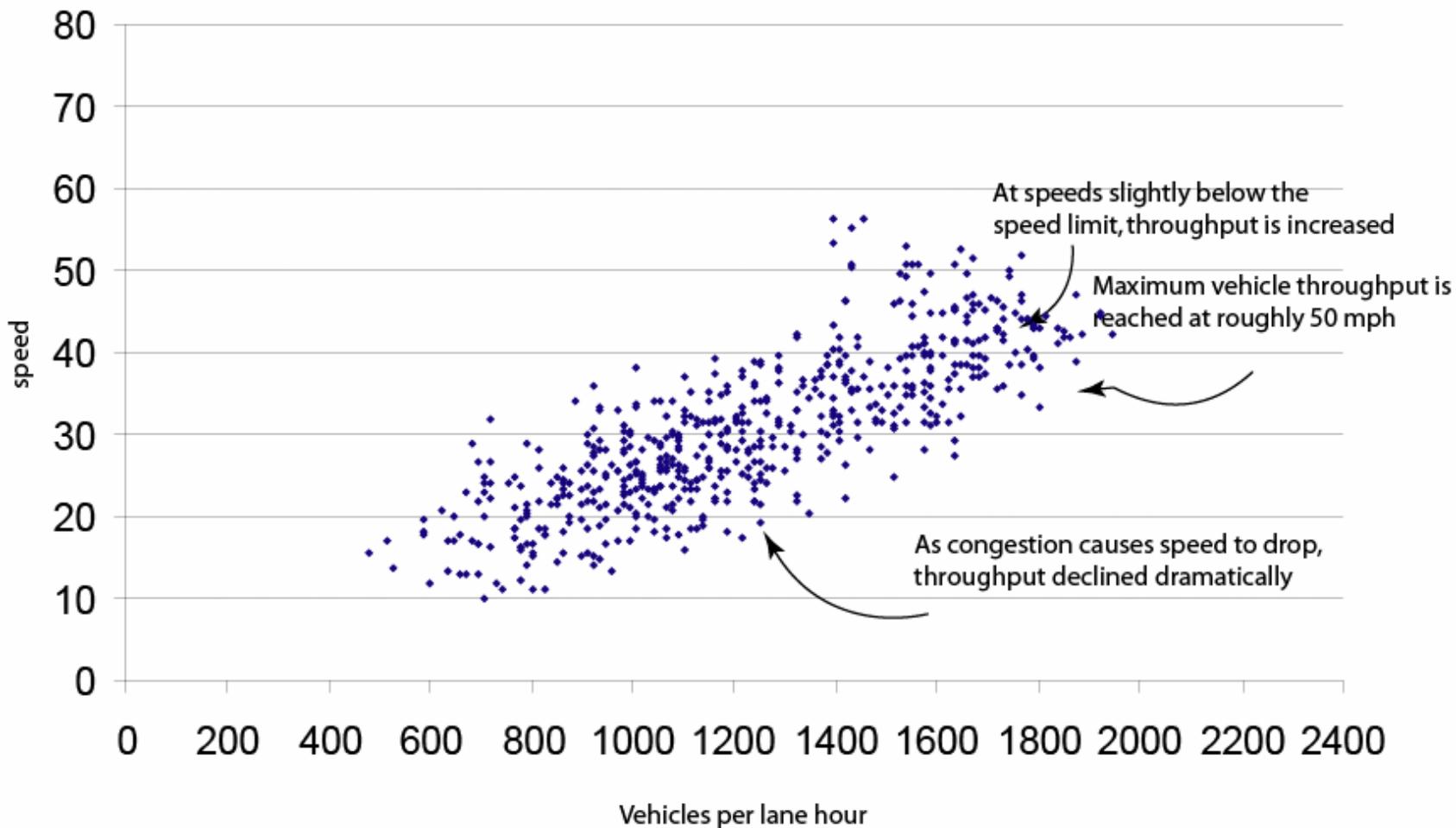
Miles per hour



Highway volume and speed relationship

Five minute measurements, 6-9 am, May 2001

Miles per hour



Congestion erodes highway capacity

