CLEAN AIR WORKS

FINAL REPORT 2007

CLEAN AIR WORKS!

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Executive Summary

In late 2005, Mecklenburg County Air Quality (MCAQ) sought to develop a Pilot Program to engage the regional business community in commuter and operational practices to lower emissions of nitrogen oxides (NOx) in the eight county non-attainment region of Charlotte, North Carolina. URS Corporation (URS) was selected as the lead consultant hired to develop the initiative; Cookerly Public Relations (CPR) was subcontracted by URS to develop a media and public relations campaign to promote the program.

Clean Air Works! launched in March 2006, as a one year effort to achieve widespread employee/commuter participation in trip-reducing behaviors and to evaluate the outcomes of various business and operational practices that improve air quality. Based on the Pilot outcomes, the project was funded with federal and local dollars for an additional year (from February 2007 through January 2008) to continue the program and build upon best practices. Year Two goals included testing the continued efficacy of existing commuter programs while broadening the Partner and commuter base of activity, with a new emphasis on fostering greater operational changes at Partner worksites. All indicators reflect a growing momentum in program participation and effectiveness among Partner companies.

Eighty-nine corporate Partners joined *Clean Air Works!*, giving reach to more than 81,000 commuters in the region. URS worked with these companies to develop and implement worksite trip-reduction programs for their employees and operational changes to their business practices; these activities generated a three-fold increase in alternative mode use between 2006 and 2007.

Total alternative trip-making initiated and tracked as part of this program eliminated 1.7 million miles during 2007 – a greater than four-fold increase over 2006 mileage outcomes. These reductions correlate to more than 2,500 pounds of NOx reduced - nearly four times that achieved during the Pilot year. New operational programs resulted in 106,335.58 lbs. of NOx reduced during 2007; the vast majority of these reductions came through sustained programs that had been initiated in the prior year, signaling the success of program continuity.

Media coverage also increased by 29% during 2007, as both regional and national news outlets expanded their coverage of the *Clean Air Works!* public private partnership.

Based on a thorough review of program metrics, the following key recommendations are presented for adoption by the County, to ensure continued program success:

- Provide continual outreach to the business community. Any significant lapse in service to employers may cause them to lessen or discontinue their efforts.
- Strengthen the involvement of existing Partners in recruiting new employers and in public relations efforts
- Continue proactive recruiting activities in all eight counties
- Continue regional networking and Partner collaboration through regular networking/training sessions
- Sustain incentive program funding to encourage trial mode shift and reward sustained behavioral changes
- Continue to offer environmental audits to current and future Partners to reduce worksite NOx emissions
- Explore a new institutional framework for the program with a broad-base of private and public sector guidance, either through an Advisory Board or Steering Committee
- Secure sustainable private-sector funding as a match for continued public support of the program
- Extend the program horizon in three-year increments to foster sustained activity and reduce uncertainty within each Partner site

Program Background and Overview

In 2006, Mecklenburg County Air Quality initiated a pilot program to engage the regional business community in commuter and operational practices to lower emissions of nitrogen oxides (NOx) in the eight county non-attainment region of Charlotte, North Carolina. URS Corporation (URS) lead the consultant team hired to develop the initiative; Cookerly Public Relations (CPR) was subcontracted by URS to develop a media and public relations campaign to promote the program. *Clean Air Works!* launched in March 2006, as an effort to achieve widespread employee/commuter participation in trip-reducing behaviors and to evaluate the outcomes of various business and operational practices that improve air quality. The 2006 Pilot program enlisted 52 employers in Metrolina into new or sustained commuter and operational practices, which ultimately lowered (NOx) emissions in the region, reducing nearly two million vehicle miles of travel.

Data show a three-fold increase in alternative mode use during 2007, compared to the Pilot year, indicating a growing momentum in program participation and effectiveness.

Based on the outcomes of the 2006 pilot program, the project was funded with federal and local dollars for an additional year (from February 2007 through January 2008) to continue the program and build upon best practices. Goals included testing the continued efficacy of existing programs while broadening the Partner and commuter base of activity. In supporting a second year of funding, both the Mecklenburg County Board of County Commissioners and the Air Quality Commission requested that a greater emphasis be placed on getting more businesses to adopt operational and business practices that reduce emissions. To achieve this, URS added an environmental engineer to the *Clean Air Works*! team and began offering customized environmental audits to Partners willing to reduce worksite emissions.

Thirty-nine new employers joined the program in 2007; two worksites elected not to participate during the second year, bringing the total number of businesses implementing emission-reducing programs and supporting their employees' participation in clean air practices to 89. The employee population represented by these partners is 81,910 commuters.

Once recruited, Partner employers were asked to conduct a baseline survey of commuter practices and to complete an evaluation of their worksite practices; these data were used by *Clean Air Works!* staff to customize a program implementation plan (Employer Action Plan, or EAP) for each worksite. Commuter programs varied widely among different Partners, with businesses choosing to implement educational campaigns, parking management strategies, transit and ridematching promotions, financial incentives, work-hour policies, or telework programs. New operational programs recommended to Partners emphasized changes in lighting, HVAC, heating system and compressed air

system improvements, anti-idling policies, delayed refueling practices, and deferred lawn maintenance. Approximately 38 Partner facilities administered operational audits at their worksite in 2007.

Throughout the two-year effort, commuters were encouraged to track their daily travel behavior and record their commute patterns; this was particularly emphasized between May and September, at the height of each Ozone Season.

Fourteen new companies agreed to participate in commute tracking during year two, for a total of 48 worksites monitoring employee travel behavior. Seven of these new participants were 2006 Partners who did not track during the Pilot; seven others were new 2007-Partners. Commuter data recorded at these participating worksites provided the primary means by which the program outcomes were analyzed.

Data show a three-fold increase in alternative mode use during 2007, compared to the Pilot year, indicating a growing momentum in program participation and effectiveness. A large portion of the alternative trips were achieved through carpooling; these 52,500 trips represented 42% of all trips reported to *Clean Air Works!* in 2007. A slightly higher majority number of commuter trips took place on the transit system – 53,750, or 43% of all recorded trips in 2007. This is more than a five-fold increase over 2006 Pilot outcomes, when 10,260 (27%) transit trips were reported by participants.

More than 53,000 transit trips were tracked during the 2007 *Clean Air Works!* Program.

Total alternative trip making initiated and tracked as part of *Clean Air Works!* resulted in 1.7 million miles being avoided by commuters during the 2007; this is a greater than four-fold increase over 2006 program outcomes. These miles represent approximately 2,545 pounds of NOx reduced - nearly four times the NOx reduction through commuter practices than was achieved during the Pilot year.

Total operational programs implemented and tracked in 2007 as a part of *Clean Air Works!* resulted in 106,335.58 lbs. of NOx reduction during 2007. Total NOx reduction from new operational programs implemented resulted in 898.64 pounds of NOx reduced, while employers that sustained operational programs that they had implemented prior to 2007 resulted in 105,437.61 pounds of NOx reduced.

In 2007, media coverage increased 29% over the coverage achieved during the 2006 campaign. Updates to the Web site, Partner toolkit and promotional items

were well received by Partners. In addition, a series of recruitment and worksite marketing materials were created to assist in the recruitment and engagement of new and current partners.

This report outlines the key findings of the the *Clean Air Works!* program during its second year of operation. It includes a review of all major *Clean Air Works!* components including: new member recruitment; surveying and Employer Action Plan development; the results of employer and commuter tracking; outcomes from selected employer-based commute and operational programs; overall emission and vehicle-miles-traveled reductions; media and public relations outcomes and measurements; a summary of key programmatic findings; and recommended next steps.

Operational program reductions at Partner worksites totaled 106,335 lbs. of NOx reduced in 2007.

Overview of Evaluation Methodology

Commuters traveling to participating *Clean Air Works!* Partner sites were encouraged to track their travel behavior and record their commute patterns daily using an online system called TripTrak. Tracking was particularly emphasized between May and September, at the height of each Ozone Season. Commuter data recorded at these participating worksites provided the primary means by which the program outcomes were analyzed.

In 2007, all recorded activities were reported in the aggregate, by employer and the program as a whole. This was the case for both commuter trips and operational changes. This represents a change from the 2006 Evaluation Methodology, which distinguished between "new" and "existing" reductions at each facility and overall. Commuters recorded their travel behavior in TripTrak, through an interface customized for each worksite. Businesses reported their operational changes as part of a worksite needs assessment. The program's evaluation was based exclusively on reported behavior; no extrapolation to the general public was conducted.

In 2007, media coverage increased 29% over that achieved during the Pilot Program.

Various program features were recorded and analyzed, including:

- Number of companies and worksites participating,
- Number of employees participating within each partner location,
- Number of employees tracking their daily travel behavior,
- Number and type of programs offered at each worksite,
- Vehicle miles reduced by employees who reported their travel behavior,

- Cumulative NOx emission reductions by company, where employees reported their travel behavior,
- NOx reductions by employers participating in CAW operational audits, and
- The distribution of trips by alternative mode (carpool, vanpool, transit, bicycle, walk, and telework), among employees who reported their travel behavior.

The advantage of evaluating program results by analyzing actual recorded trips – versus projecting a sample to the entire population – is that the results depict actual employee behavior. The disadvantage is that not every worksite or every eligible alternative mode user tracked their behavior. Throughout 2007, only 35 of 89 total Partners, at 48 different worksites, offered TripTrak. Furthermore, those who tracked did so inconsistently, with some companies averaging fewer than 10 days of employee data capture per month. Thus, while the tracking data presented are accurate, the presentation of findings probably ***under represents*** overall behavior changes.

Program Recruitment

As in the Pilot year's activities, recruitment of new *Clean Air Works!* Partners was conducted in collaboration with the Regional Air Quality Board (RAQB), a group comprised of representatives from the Mecklenburg County Commission, the City of Charlotte, the Charlotte Chamber, the Centralina Council of Governments, the Catawba Council of Governments, and representatives from the private sector. This effort paired elected officials and members of the business community with the URS team, to reach out to major employers in the eight-county region and secure their participation in the program.

In 2007, employer Partners were represented from all eight Metrolina Counties.

In early 2007, the RAQB initially undertook business recruitment independently, identifying and targeting 50 new companies throughout the region for direct correspondence. URS and its media subconsultant, Cookerly Public Relations (CPR), created a series of marketing materials to aid in the recruitment effort, including a one-page program overview, a sign up form, an eight-county partner map, and pages of media clips and quotes from 2006 employer participants.

To help recruit new businesses into the program, *Clean Air Works!* also hosted a kick-off breakfast in early spring. John Eapen, Vice President of Environmental, Health & Safety for Ruddick Corporation, an early CAW

Partner, was the keynote speaker at the event.

In May, the RAQB asked URS to assist with recruitment efforts, specifically, to reach out to employers in Cabarrus, Iredell, Lincoln, and Union Counties. URS' recruitment efforts resulted in 18 new partners into the CAW program,[1]distributed as follows: Union County (2), Lincoln County (4), Iredell County (2) and Cabarrus County (1), York County (1), Gaston County (2) and Mecklenburg County (6).

Clean Air Works! business partners were also very instrumental in recruiting new partners throughout 2007. Ruddick Corporation helped to recruit three new partners during the year: Helms Mulliss Wicker, Marsh, and Travelers Insurance. The York County Chamber of Commerce also helped to recruit additional York County partners, Comporium and Tyco Electronics. In addition, the Gaston Chamber hosted a *Clean Air Works!* informational meeting at which Freightliner became a Partner. Due to these shared efforts, 35 employers, representing 48 individual worksites[2], committed to participate in the *Clean Air Works!* program during 2007.

Enrollment during 2007 was both slower to get started and more protracted throughout the year, than the 2006 Pilot Program. By April 2007, only two corporate partners had signed up to work with *Clean Air Works!* versus 20 employers on board by the same time in 2006. Six others enrolled in May 2007; nine in June; two in July; 13 in August; four in October; and one in November. By contrast, all 52 partners had been signed up into the Pilot program by July 2006. The lengthened recruitment period produced mixed outcomes for both the outreach staff and businesses, it had during the Pilot.

One effect of later recruiting was that the consultant team was able to spend the early part of the year focused primarily on deepening programs at existing partner worksites; this continued throughout the spring and summer, until new Partners began to join. Early worksite expansion activities included hosting numerous worksite events, Try It and Gas Cap Check promotions, instituting parking management programs, and rolling out worksite transit, carpool, vanpool, and bike/walk initiatives. This increased activity resulted in broad participation by Pilot Partners – including greater alternative mode usage, the

[1] This recruiting push secured the first partner in Lincoln County, broadening *Clean Air Works!* to all eight counties.

[2] Several Partners chose to enroll multiple worksites in the program; these locations were served individually but recorded as only one Partner site.

development of new operational programs, and the agreement by more Partners to begin tracking.

A less positive outcome was that the consultant team was called upon to work with new 2007 Partners on "start-up activities" through November (conducting introductory presentations, surveying commuters, establishing baseline assessments, and creating Employer Action Plans). This tended to protract the onset of activity at these new Partner sites until much later in the year, reducing the time available for significant change to occur prior to the program's possible conclusion.

Late enrollments also brought the discomfiting challenge of commencing new Partnerships merely one or two months before the program might potentially disband. Without assurances of future program services, marketing and public relations support, or on-site outreach assistance, some businesses were slower to roll out new programs and worksite policies. In fact, some 2007 Partners elected to take a "wait and see" approach to their program development, choosing not to embark upon new commuter or operational changes during what may be the last few months of a regional program. The influence of funding uncertainty on the program's outcomes has yet to be fully determined[3].

Baseline Survey / Data Analyses

Fewer Partners agreed to participate in a Baseline Survey during 2007, than agreed during the Pilot year. Just over half of all 2007 partners (20/39) surveyed their employees to estimate existing employee behaviors and worksite practices. This is a significant drop in survey participation over 2006 – when nearly 90% of employers agreed to be surveyed.

The greatest survey results came from those Partner worksites whose executive champions encouraged broad participation.

Just over half of the employers (11 out of 20) initiated their employee baseline surveys during June and July, which was later than when initiated during the Pilot program. The remainder initiated survey procedures in mid-summer and into the fall. Thirteen companies elected not to survey their employees and opted out of the baseline assessment for various reasons: one employer completed their own commuter survey; another felt it was unnecessary. This delay in surveying also delayed the start-up of on-site programs at new partner worksites (a similar experience to what was encountered during the Pilot).

[3] With future funding uncertain, late-year sign ups were essentially presented with a "Partnership" that could end in only 1-2 months time; therefore, the potential exists for employers to feel mislead, which could have a negative impact on their view of the program.

As with the prior year, the outreach team found that the greatest survey response rates came from companies whose executive champions encouraged completion of the data. The most effective "top down" approach usually involved a CEO or President sending an internal memo to staff with the survey link attached. The outreach team strongly encouraged this approach to each new partner in 2007.

The 20 Partners surveyed represents more than 6,600 Charlotte area commuters; this is a significant drop from 2006 survey participation, when the representation equaled approximately 54,000 commuters. This is largely attributed to the smaller size of many of the companies recruited during 2007.

Survey Findings/Attitudinal Data

During the Baseline Survey, employees were asked two open-ended questions regarding drive-alone commuting. The first: "If you usually drive alone to this workplace, what is preventing you from choosing one of the following alternatives – carpooling/vanpooling, riding the bus, bicycling or walking," was followed by a series of broad categories from which respondents were asked to choose all that applied. Approximately 7,000 responses were provided for one or more of these categories.

Questions regarding carpool and vanpool obstacles generated a greater volume of responses, than did transit, bicycling, or walking-related questions. As shown in Figure 1 below, there was a high level of consistency among respondents in both 2006 and 2007 surveys, when asked about the obstacles to ridesharing. The most readily identified obstacles among drive-alone commuters remained: need for a personal vehicle during the day to run errands, and uneasiness relying on other people to get to work. Other popular responses included needing a vehicle during the day for emergencies, staying late to complete work assignments, or not knowing anyone with whom to share a ride. Nearly half of all responses identified these criteria. More than a quarter of respondents stated having concerns with other riders in their vehicle – either that they preferred to commute alone, that they didn't like to rely on others, or that they were uncomfortable allowing strangers into their car.

More than 7,000 responses were provided to attitudinal questions relating to changing travel modes.

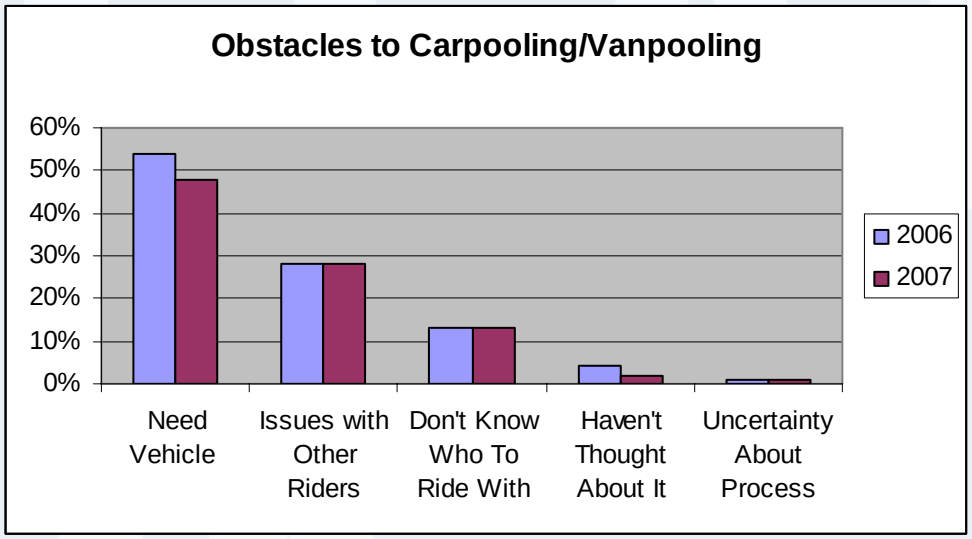

Figure 1: Obstacles to Carpooling/Vanpooling

(48%) Carpooling and Vanpooling

- I may need my vehicle during the day for errands (16%)
- I don't like relying on others to get me to work on time (15%)
- I often stay late to complete work assignments (13%)
- I may need my vehicle during the day for emergencies (13%)
- I don't know anyone to share rides with (13%)
- I prefer traveling to work by myself (8%)
- I may need my car during the day for offsite meetings (6%)
- I need to pick up a child at day care (6%)
- I am not comfortable sharing a ride with strangers (5%)
- I haven't really thought about it before (2%)
- I don't know whether I should be a passenger or the driver (1%)

Twenty-six percent of all responses highlighted various obstacles to using transit (compared with 25% during the Pilot program). The most common identified obstacle to transit in 2007 was related to time: 22 percent of respondents indicated it takes too long to commute using the bus versus an automobile. Nineteen percent stated the service was too infrequent, noting that the time between scheduled bus stops in both the AM and PM made it impractical for work purposes. Commuters' uncertainly was prevalent again in 2007. This included responses from employees who were unsure about whether there were a bus route near their home/work; the location of bus stops; how and where to obtain bus information or a schedule; and uncertainty about what it costs to utilize public transit. Combined, these accounted for almost one third of all identified obstacles to using transit.

Time-related concerns were those most frequently voiced, regarding obstacles to utilizing transit.

Figure two illustrates a comparison between 2006 and 2007 survey responses. Of particular note is the dramatic change among respondents who had never considered taking transit in 2006 (more than 15%), and the drop in percentage to only 5% in 2007. This suggests an increase level of awareness among these commuters, possibly influenced by *Clean Air Works!* and related programs to market transit services and educate riders. Still absent, however, is sufficient detail for riders – whether regarding fares, routes, stops – to make them comfortable or confident enough to switch.

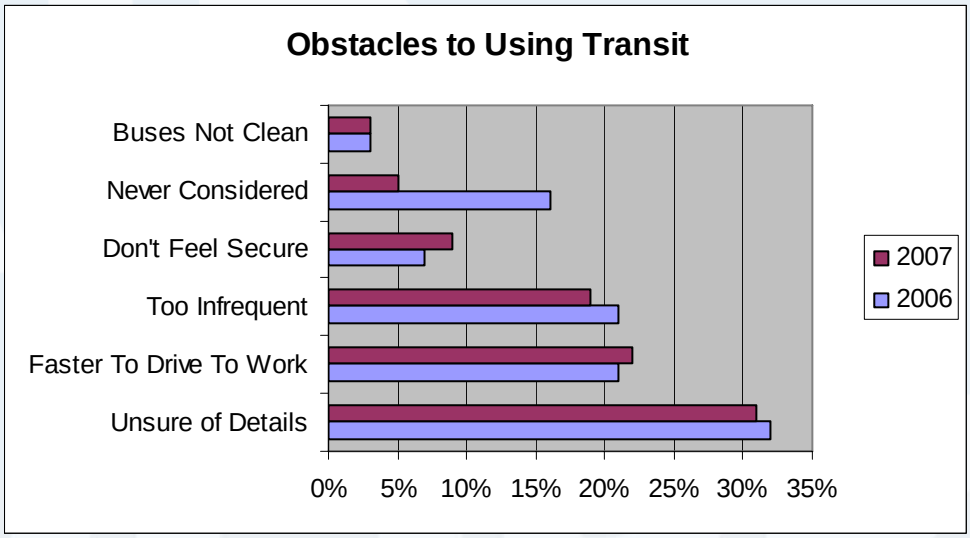

Figure 2: Obstacles to Using Transit

(28%) Riding the Bus

- Riding the bus takes longer than driving myself to work (22%)
- I don't know if there is a bus route near my home (13%)
- I need my car during the day for offsite meetings (11%)
- The schedule is not frequent enough to accommodate my PM work hours (10%)
- I don't feel safe or secure taking the bus (9%)
- The schedule is not frequent enough to accommodate my AM work hours (9%)
- I don't know where the bus stop is located (6%)
- I didn't know this was an option for me (5%)
- I don't know the cost of taking the bus (4%)
- I don't know how to get information about a bus schedule (3%)
- The buses are not clean (3%)

(24%) Bicycling or Walking

- I live too far from work for this to be a viable choice (52%)

- I am concerned about my safety (12%)
- I need my car during the day for offsite meetings (10%)
- There aren't any showers or lockers at my office (8%)
- It is difficult to bike or walk where I work (7%)
- There isn't a place to store my bike at work (5%)
- It is difficult to bike or walk where I live (5%)
- I would like to have information about trails or paths (2%)

***'If my employer-provided information,"* ranked highest among respondents as a key motivator for changing their travel mode.**

The second attitudinal question was, *"Which of the following would most encourage you to try alternatives to drive-alone commuting?"* Responses included six broad categories: Transportation Alternatives; Employer Transportation Programs; Parking; Information on Commuting; Worksite Amenities; and Bus Service, as well as individual sub-categories for each. The total number of responses to these questions and categories was more than 5,000, as respondents could select more than one answer. Responses varied widely and were very consistent across categories, with 2006 figures. Employer-provided information remained the highest influencing factor, although dropping a percentage point (from 31% to 30%); receiving information on commuting increased slightly as an influencing factor, increasing from 14% to 16% in 2007. This reinforces the importance of the need for worksite-based offerings and ongoing commuter education.

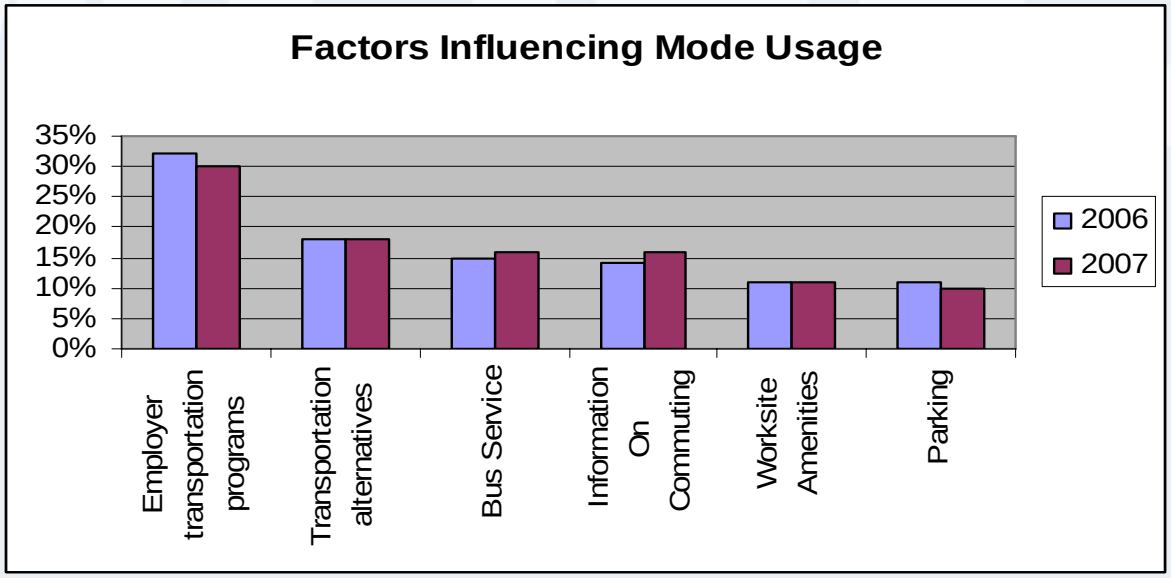

Figure 3: Factors Influencing Mode Usage

Among these respondents, the opportunity to telework (work from home) occasionally was again rated highest (31%), followed by the availability of

financial incentives to use an alternative (22%), and the existence of an Emergency Ride Home program (18%).

Financial incentives featured prominently in the responses to other categories as well: approximately one half of those who stated that the availability of "Transportation Alternatives" would influence their decisions also indicated that incentives would sway them toward non drive-alone options. Among those who indicated "Parking Issues" were the most influential factor, 59 percent stated that they would be more influenced if financial incentives were offered for not using one's parking space (compared to 52% during the Pilot).

There was only a modest fluctuation between those who stated they would be influenced by the existence of other transportation alternatives (18%), enhanced bus service (16%), and greater information on commuting (16%). Just as in 2006, eleven percent of respondents emphasized enhanced worksite amenities as determining their willingness to switch modes. Of these, over three-quarters pointed to the availability of onsite services, such as banking, dry-cleaning or child care as influencing their decision to use an alternative commute.

(30%) Employer Transportation Programs

- If my employer allowed me to work at home occasionally (31%)
- If there were financial incentives for using an alternative (22%)
- If there were financial incentives for using an alternative (22%)
- If I had access to a ride home in case of an emergency (18%)
- If I could participate in a pre-tax commuter benefit program (16%)
- If my schedule were more flexible to allow me to use an alternative (14%)

(18%) Transportation Alternatives

- If I had a means to get around during the day without my car (50%)
- If there were incentives available to try a transportation alternative (50%)

(16%) Information on Commuting

- If I could get a list of people to share rides with (40%)
- If more information were available about commute options (36%)
- If someone were available to help me find an alternative commute mode (24%)

(16%) Bus Service

- If the bus let me off close to the building where I work (31%)
- If there were more frequent bus service (29%)
- If there were transportation from the closest bus stop to my worksite (27%)
- If bus fares (e.g., monthly passes) were sold at my workplace (14%)

(11%) Worksite Amenities

- If there were more on-site services (e.g., food services, dry cleaning), to reduce the need for off-site travel during the day (53%)
- If there were a day-care or child-care center onsite (28%)
- If lockers, bike storage, and showers were available for cyclists (19%)

(10%) Parking Issues

- If financial incentives were provided for not using a parking space (59%)
- If there were secure and weather-protected parking (27%)
- If I had a better parking space for being a carpooler or vanpooler (14%)

Program Implementation

Employer Action Plans

A total of twenty Employer Action Plans (EAPs) were developed for each Partner, in most cases, after the Partner completed a baseline survey at their worksite. The primary output from the Employer Action Plans was program implementation at new worksites, as Partners selected between the commuter and operations-based programs recommended in their EAP.

Many Partners requested a series of broad and general recommendations that could be implemented quickly at the worksite.

Although each EAP's recommendations were tailored individually, many 2007 partners also asked for a series of broad and general recommendations they could begin implementing immediately – whether they conducted a baseline survey or not. One reason for this could be the overall heightened awareness of corporate environmental responsibility and stewardship. Many partners are starting to put together "green" committees to take on recycling and energy conservation issues, and are finding that *Clean Air Works!* programs fit well into their sustainability plans.

Most of the more general EAP recommendations included Gas Cap Check events, anti-idling programs, refueling raffles, and preferential parking programs – all of which can be implemented at low or no cost. More detailed recommendations were developed in part upon feedback from employees, business needs, and worksite geography. Which strategies were ultimately selected and implemented depended entirely on each Partner, their corporate culture, the influence of their geographic location (e.g.

proximity to transit), the nature of their workforce, and the willingness of upper management to endorse any or all of the recommendations.

Willingness of upper management to endorse the recommendations was a key factor in what programs were implemented.

The EAPs incorporated each worksite's survey findings and each company's employee profile, to generate specific program recommendations for implementation within each worksite. Once the EAP was reviewed by the corporate partner, a period of internal decision-making typically ensued, before commuter or operational programs were ready to be launched – unless delayed through internal corporate protocols, schedule conflicts, or vacations by key corporate decision-makers. The delay of worksite program start-ups is significant, because *Clean Air Works'!* program efficacy was measured by cumulative employee participation and tracking, which followed.

The first five EAPs of 2007 were prepared and presented to employer partners during June and July. The remaining plans were presented during August and into the fall, as shown in Table 1 below.

Table 1: 2007 Employer Participation Timeline

	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan
Partner Signup	2	6	9	2	13	1	4	1	0	0
Baseline Initiated	0	2	4	7	2	2	0	3	0	0
Baseline Completed	0	2	3	7	2	2	1	3	0	0
EAP Presented	0	0	3	2	8	1	1	4	0	1

Plan recommendations typically included a combination of the following:

- Educational campaigns to raise awareness among employees about alternatives to driving alone;
- Onsite ridematching services, to pair employees with potential carpool or vanpool partners who share similar work hours
- Transit services and promotions to increase bus ridership; light rail service
- Work-hour policies, to enable employees to arrive and depart work outside peak hours of traffic (including flexible work hours, compressed work weeks, or staggered shifts);
- Telework programs, enabling employees to work from home or a remote office;
- Bicycling and walking programs, to encourage healthier travel options for short trips or even long distance commuting;
- Parking management programs to reward individuals who carpooled with dedicated and more proximate spaces;

- Various financial incentive programs – including "Try It Days," free 10-trip transit passes, employer- sponsored Guaranteed Ride Home programs, and refueling raffles;
- Anti-idling policies;
- Installing timers and/or motion detectors on lights;
- Delaying refueling of fleets and/or encouraging employees to delay refueling;
- Load-shedding when outside temperatures reached a predetermined degree Fahrenheit;
- Purchasing hybrid vehicles; and
- Using energy misers on vending machines.

As seen in 2006, larger companies tended to consume a greater proportion of staff time and resources, when it came to program implementation.

Worksite Data Tracking

During the 2007, 48 worksites (representing 35 companies) encouraged their employees to track their travel behavior. This year, CAW used only one online tracking tool, TripTrak, rather than two programs, as in 2006.[4] During the Pilot, TripTrak was deemed more user-friendly, and administration was more streamlined with only one program to promote.

There was a greater willingness among Employer Partners and employees to track their commute behavior in 2007.

The outreach team saw a greater willingness among employers to track their participation during 2007 than during 2006. Most partners wanted their employees to track their commute behavior, so they could measure how their worksite was positively impacting the environment. This also gave the Project Leader quantifiable participation data to take back to upper management to leverage additional support for the program. Among the reasons some employers chose not to track were: starting too late to track employees' changes, and participating in *Clean Air Works!* program on a more limited basis (e.g., informational only).

Employees either used the TripTrak system to record their trips on-line or used paper tracking logs, which were then tallied manually by the outreach team each month. Most participated on-line; only a small number of employers whose employees did not have Internet access, chose to track using paper logs.[5]

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[4] TripTrak and South Carolina's *Take A Break From The Exhaust* (TABFTE)

[5] These included American & Efird, Charlotte Pipe & Foundry, Coca-cola Consolidated (Plant), Radiator Specialty, and UNC Charlotte, whose employees do not have access to the Internet.

In 2007, TripTrak was modified to allow commuters to record their commutes monthly, rather than daily or weekly, as in 2006.

At these individual worksites, not every site tracked employee activity each month. Although Ozone Season began in May, the most concentrated period of employer tracking began in July and lasted through October, after worksite programs had been up and running for a few months. This suggests that an earlier winter/spring outreach push (February/March) may be needed to enroll and ramp up programs at worksites, if early May (Ozone-Season specific) measurements are being sought.

The winter and spring months typically saw less tracking. During both February and March, commuters in only nine companies tracked their commutes; this grew to 17 companies by April. After active tracking through October, the number of employers tracking fell in November by eight. Tracking numbers fell again in December by another five employers, then increased in January 2008 by one employer (for a total of 20 partners during that month).

In March, TripTrak was updated to allow commuters to record their commutes monthly, rather than daily or weekly, as in 2006. This may be one of the reasons that *Clean Air Works!* saw an increase in tracking during 2007. More than 1,200 new commuters registered to track their commutes online in 2007 (compared to 1,000 commuters in 2006). This update was made at the request of a number of employer partners who wanted to make tracking as easy as possible for their employees. Commuters were still encouraged to track their modes daily, however. In 2007, a $25 monthly raffle drawing was offered to eligible participants who tracked daily.

In addition, *Clean Air Works!* offered a Commuter Perks incentive program to reward commuters for their clean commuting and tracking efforts. This program may have significantly helped to increase the number of commuters tracking consistently at each worksite. Still, as in any instance where commuters can self-select and report on a voluntary basis, reported trips are considered to be lower than actual trip reduction. Table 2 illustrates the number of commuters rewarded from May through September for participating in the *Clean Air Works!* Commuter Perks program:

Table 2: Commuter Perks Program Distributions

Commuter Perks Prize	# of Roundtrips Needed	# of Commuters Rewarded
Lunchbag	10	610
Umbrella	20	592
Polo	35	414
$25 gift card	55	256
$50 gift card	80	104

Commute / Trip Reduction Strategies

One of the objectives of the 2007 *Clean Air Works!* program was to continue to develop employer relationships and deepen program offerings at 2006 Partner worksites. With new partner recruitment delayed, the outreach team devoted much of their time between February and May focused on this objective. Establishment of new worksite programs began in earnest in May, as new Partners were recruited. Over 120 *new* commute programs were implemented in 2007 at both existing and new Partner worksites (see Figure 6).

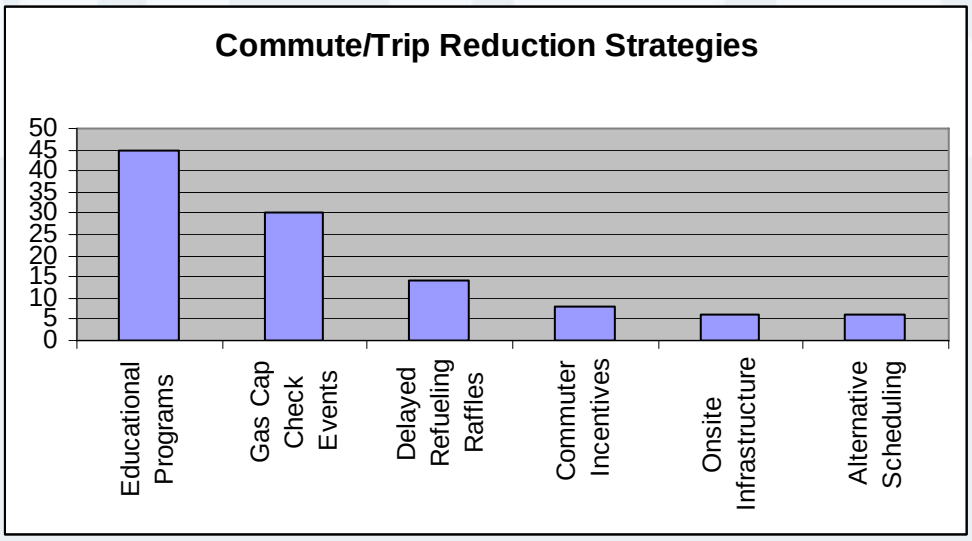

Figure 4: Commute/Trip Reduction Strategies

The most frequently adopted strategies to encourage behavior change were:

Educational Programs (45 Partner sites)

These included comprehensive awareness campaigns to educate employees about their commute options and how to adopt 'clean-air' practices. Educational programs typically included on-site and informational programs, including placing CAW information in new hire packets. Companies offering educational strategies also offered on-site carpool/vanpool ridematching and hosted Transportation Days, during which the CAW outreach team would talk one-on-one with employees about their commutes and how to use a better alternative.

Twelve partners implemented new air quality awareness programs during 2007.

Twelve partners implemented new air quality awareness programs, where they educated their employees on the daily AQ forecast through NC Air Awareness forecast posters displayed in their lobbies, or through company-wide emails sent the day before Ozone Alert days. Bowater and American & Efird continued to administer mandatory air quality and commute-options training sessions for their employee bases in 2007. Harris Teeter hosted a corporate office "Stay In For Lunch Day," as did Citi Fort Mill; Piedmont Natural Gas hosted 20 "Stay In for Lunch" events this summer.

Throughout the term of the program, the team created an ongoing *Clean Air Works!* presence at Partner worksites, by conducted 201 employer meetings and 228 worksite events – almost double the number of events conducted during 2006 (see Figure 4). During these activities, over 900 individuals registered through *Clean Air Works!* into the state's ridematching database (sharetheridenc.com) to find a carpool partner (see Figure 5). This is almost double the 485 who signed up during the Pilot program. American & Efird, Bowater and Moore & Van Allen all continued to offer their own ridematching system for employees.

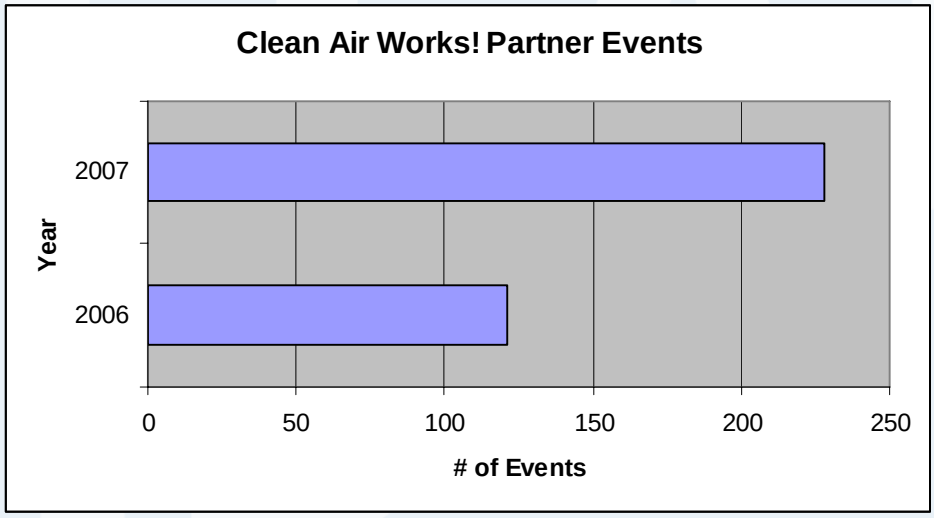

Figure 5: Annual Events 2006 and 2007

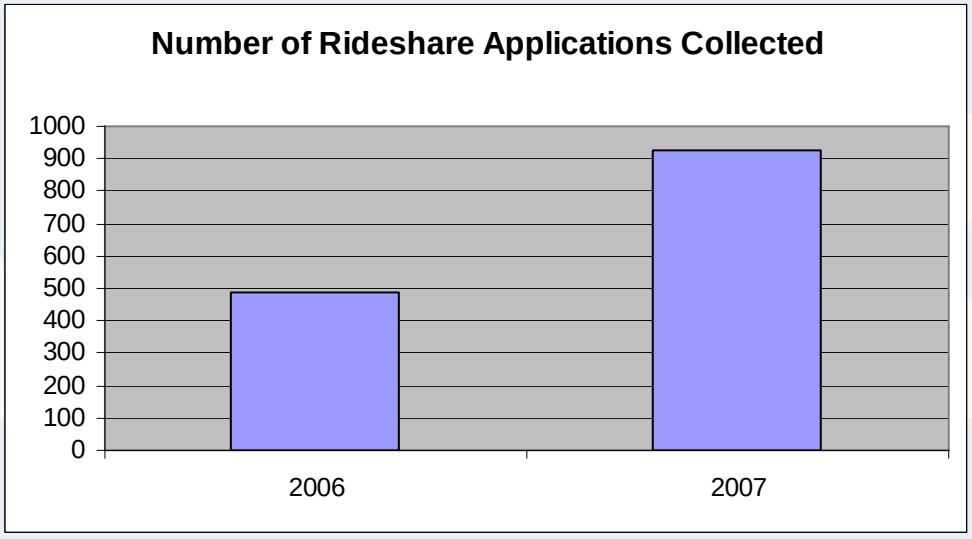

Figure 6: Annual Rideshare Applications Collected

Gas Cap Check Events (30 Partner sites)

Sixty-one gas cap checks were conducted at more than 30 Partner sites during 2007. This easy method of reducing evaporative emissions is available to all employees willing to test their personal vehicle. Nearly 4,000 vehicles were tested during 2007 – eight times the number tested during 2006 – and 171 caps were found to be deficient. Replacing

these gas caps is preventing approximately 765,400 lbs. of evaporative emissions annually.

Delayed Refueling Raffles (14 Partner sites)

A program that American & Efird created during the 2006 Pilot program became very popular among other CAW employers in 2007. Approximately 14 sites implemented delayed refueling raffles to encourage their employees to refuel their vehicles in the afternoon or evening, when ozone formation is decreased. Employees entered their time-stamped gas receipts for weekly or monthly raffle drawings. Harris Teeter opened up their refueling raffle to each of their Harris Teeter retail stores in the non-attainment region. Each partner sponsored their program individually, or with matching funds from *Clean Air Works!*.

Onsite Infrastructure (6 Partner sites)

This included offering preferential parking for carpoolers or vanpoolers, or installing bicycle racks for storing commuter bicycles. Bowater, Charlotte Pipe & Foundry, Compass Group, and Duke Energy (Catawba) all implemented preferential parking at their worksites in 2007. Bowater's parking program is structured to require employees to register and receive a carpool hangtag before they are able to utilize the preferred spaces. Bowater's security team monitors these spaces for program violation. Both Coca-cola Bottling and Harris Teeter installed bike racks at their facility to promote bicycling to work this year.

Alternative Scheduling (6 Partner sites)

The number of alternative schedule programs increased from four to six from 2006 to 2007. Partners implemented the same number of new telework and flextime programs. American & Efird, AT&T, and Bissell Companies all decided to offer more flexible work-hour policies for their employees, to reduce the time commuters spent in "peak-hour" traffic, thereby lowering emissions produced while driving. Citigroup, Duke Energy, and Piedmont Natural Gas all started Pilot telework programs this year for qualified employees, whose job responsibilities allowed them to work effectively from home or a remote office.

Duke expanded its $50 transit and vanpool subsidy to cover the entire cost, during 2007.

Commuter Incentives (8 Partner sites)

Eight employer Partners launched some form of commuter incentive program for employees during 2007. Both Piedmont Natural Gas and Johnson & Wales

University offered complimentary 10-trip CATS transit pass programs to encourage their employees to ride transit to work. Due to their successful 10-trip transit pass program in 2006, Moore & Van Allen decided to subsidize the entire cost of their employees' commutes, including Lynx light rail passes in 2007. Moore & Van Allen also offered free use of CORE Fitness shower and locker facilities to employees who biked or walked to work, in addition to an employer-sponsored Guaranteed Ride Home program. Piedmont Natural Gas, in addition to their 10-trip transit pass program, also offered employees their own version of a Guaranteed Ride Home program. In addition, Bowater offered a monthly raffle for employees who carpooled to work on a regular basis.

Employers who offered rewards programs in 2006 continued their incentives through 2007. ALLTEL offered a $10 seat-subsidy to its employees who vanpooled to work. The Charlotte Chamber offered a $30 financial incentive to reward employees using an alternative mode throughout the summer. During the Pilot, the Chamber only offered this program during the month of September, but in 2007, they offered the program throughout Ozone Season. In addition, Duke Energy expanded its $50 transit and vanpool subsidy incentive to cover the entire cost of their employees' commutes. Due to this program, pass sales increased on average from 38-64% from May through August 2007.

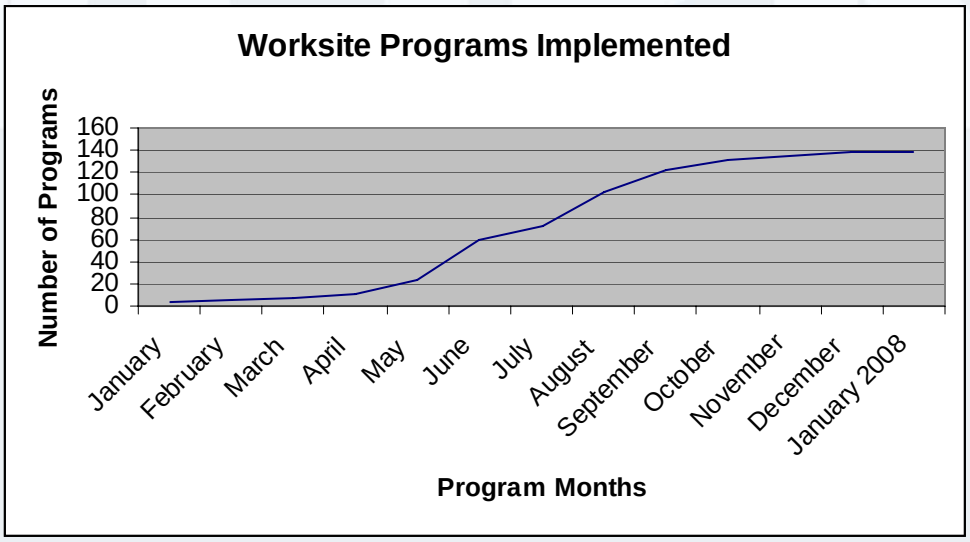

Figure 7: Worksite Programs Implemented

A detailed table of all emissions reductions and associated vehicle mile reductions by company is included in Appendix A. This table presents the

1,741,437 vehicle miles of travel were avoided through *Clean Air Works!* commuter programs at Partner Sites.

aggregate VMT and aggregate NOx reductions achieved during 2007 by participating Partner sites, through commuter programs. A total of 2,573 pounds of NOx were reduced, and 1,741,437 miles of travel avoided, through these programs.

Lessons Learned: Worksite Commuter Program Implementation

"Top Down" corporate support was critical to success in 2007: The involvement of existing Partners and private sector business leaders was critical to the project's success in 2007. Not only did the 2006 partners help to recruit new businesses into the program in 2007, they also motivated other businesses to deepen their programs by showing the successes of their own worksite programs. Worksites with "top down" commitment from their CEOs showed greater survey response, more employee tracking, and ultimately, greater participation.

Corporations need time to make decisions: Implementing programs that ultimately affect an employer's workforce and bottom-line take time. Although smaller businesses were generally able to adopt programs more quickly than larger ones, there still was a period of surveying and decision-making that each company had to endure. Decisions also took longer if an employer were considering investing monetarily into a program. In some cases, employers indicated budgets had to be approved six months to a year in advance. Unfortunately, delayed onset of 2007 Partner recruiting again impacted the speed with which new Partners could adopt and implement programs. On the other hand, the extension of the 2006 Pilot for another calendar year enabled increased depth of programming and funding (e.g., Duke's 100% transit subsidy) at existing Partner sites.

Financial incentive programs generated significant trip reductions: Employers who offered some type of financial incentive to their commuters in 2007 saw greater employee trip reductions than employers who did not offer an incentive. Duke Energy, who increased their $50 transit and vanpool subsidy to a 100% subsidy during 2007, generated significant increase in transit usage during year two. Moore & Van Allen also saw success when they began offering fully subsidizing transit passes late in the summer.

Business / Operational Strategies

Another key objective of the 2007 program was to assist employers in implementing emission-reducing business practices at their worksites. This year,

Clean Air Works! offered free operational audits to participating partners as an added incentive to get involved. Thirty-eight operational audits were administered at Partner sites during the year; 10 were held at new partner worksites and 28 at existing 2006 Partner sites.

Fourteen employer sites implemented a total of 24 new operational programs during 2007 (representing approximately 899 pounds of NOx reduced). An additional 19 operational programs that began during the Pilot were sustained, representing approximately 105,437.16 pounds of NOx reduced. More programs are expected to be implemented in early 2008, since follow up with partners who hosted CAW operational audits is still underway.[6] Operational programs also varied widely among worksites. Nine partners[7] implemented new anti-idling policies; four companies implemented new lighting programs; and many others installed new energy-efficient equipment.

Decision-making on implementing business practices was much more protracted than for trip-reduction programs. Partners were most willing to implement anti-idling programs for fleet vehicles, and institute new lighting programs, replacing incandescent bulbs with compact fluorescent bulbs and fixtures.

For example, Bowater updated light bulbs in their administrative office light fixtures; Johnson & Wales University replaced all incandescent lighting in their dining room, campus Library, and Academic Center; and Bissell replaced two of their fleet vehicles with hybrids to help reduce their emissions footprint. Bissell also installed vending machine energy misers, and lighting motion detectors to reduce energy at their Ballantyne campus; both tactics were recommendations from their operational audit.

Both UNC Charlotte and PSNC Energy stressed the importance of keeping vehicle tires properly inflated as an emissions reduction measure. UNC Charlotte installed a “Pump Em’ Up” air station on campus that is open to the community to fill up their tires. PSNC Energy offered weekly tire pressure checks for their fleet vehicles as well as their employees’ personal vehicles. PSNC checked approximately 10-15 vehicles each week over the summer.

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[6] The CAW team continues to follow up with partners that administered operational audits at their worksites. Additional operational programs are expected to be implemented as employers consider their audit program recommendations and decide which programs they are able to implement.

[7] Including Houser Transport, one of CAW’s newest partners from Lincoln County

Operational / Energy Audits

An exciting new program that *Clean Air Works!* offered to its Partners in 2007 was providing free operational/energy audits to help identify opportunities for Partners that could reduce energy usage at their worksite. Operational audits not only recommend how an employer can reduce their carbon footprint, but also provide opportunities for businesses to save money through improved energy efficiency.

Prior to rolling out the 2007 operational audits to *Clean Air Works!* Partners, URS first identified those businesses that could most likely benefit from an audit. Approximately 50 existing (2006) CAW Partners were identified, along with 129 other businesses (potential 2007 recruits) that could be approached. After identifying these prospects, URS then contacted all 50 eligible, existing Partners and encouraged them to consider hosting an audit at their worksite. URS also used the CAW audit offering as a sales tool for new business prospects during the 2007 recruitment period. This was especially helpful at worksites that, for various reasons, were unlikely to offer commuter programs.

Procedural Steps

Once an operational audit was scheduled, each Partner was asked to complete a pre-audit questionnaire for every facility being audited. This questionnaire requested information concerning energy usage and cost, utility rate structures, boilers and steam systems, compressed air usage, and other general operational information. This data helped URS staff assess further areas for attention during the audit, which Partners could list on the questionnaire.

Each audit started with a kick-off meeting and an information collection session with the facility's engineering and operational staff, in addition to plant management. During this initial assessment, URS gathered data on energy usage practices, as well as facility schedules, number of employees, recent energy conservation efforts, compressed air leak detection programs, and other related features.

The audit then continued with a comprehensive walking tour of all areas of each facility being assessed. During the walkthrough, URS collected information concerning numbers and types of lighting, compressed air usage practices, steam usage and steam system components, HVAC system components, numbers of vending machines, and other operational

components, such as number of deliveries received each day, lawn maintenance practices, emergency generator testing practices, and the existence and implementation of anti-idling programs.

Each Partner audit took approximately one day to administer at a manufacturing site (depending on size) and approximately two hours to administer at an office building. Approximately 28 office buildings were audited during the course of the year, and 10 manufacturing, distribution center, or arena-type facilities were audited as well.

Audits were administered at the following Partner sites:

2006 Partners	**# of Facilities Audited**
American & Efird	2
Bank of America	3
Bissell Companies	8
Bowater	1
Citi Fort Mill	1
Coca-cola Bottling Plant	1
Coca-cola Consolidated Offices	1
First Charter Bank	5
Harris Teeter Corporate Office	1
Harris Teeter Distribution Center	1
PSNC Energy	1
Springs CBG (Rock Hill)	1
Springs Global (Fort Mill)	1
Terracon	1
Subtotal	*28*
2007 Partners	**# of Facilities Audited**
BaxterHarriss	1
Bobcats Arena	1
Charlotte Convention Center	1
Comporium	3
Cricket Arena	1
Frieghtliner	1
Ovens Auditorium	1
VisitCharlotte	1
Subtotal	*10*
TOTAL	**38**

Table 3: 2007 Operational Audit Sites

After the completion of each onsite audit, information from the pre-audit questionnaire and from the walkthrough was collected, organized, and analyzed, and potential emissions reductions opportunities (EROs) were identified. For some facilities, additional investigations of particular processes were required in order to estimate energy savings and cost savings from potential EROs. Potential emission reduction opportunities were force ranked according to cost and payback; EROs with a payback greater than three years were removed from further consideration.

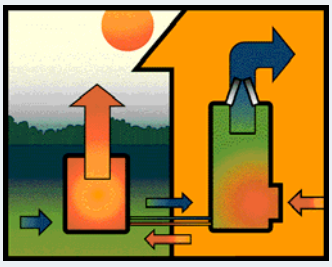
URS then prepared and delivered a draft audit for each Partner to review. After comments were received and addressed, staff prepared a final version of each Operational Audit Report and delivered the report to each Partner.

In all, 38 operational audits were performed at Partner sites during 2007. From these audits, total potential NOx emission reductions of 9,144 lbs were identified. The average simple payback for all recommendations is estimated to be in the 1.5 – 2 year range.

Major Findings and Audit Recommendations

The most frequently recommended programs for Partners to implement included changes in lighting, regular tune-ups and audits of HVAC systems, and installation of occupancy sensors on vending machines:

- On average, lighting represents around 29% of the electricity use in office buildings. It is very common for office buildings and other facilities to have over lit areas in which lighting levels can be reduced. It is also common for lighting to be left on inside and outside facilities during time periods when they serve no useful purpose. Furthermore, many facilities still utilize incandescent lights, which are much less energy efficient than compact fluorescent lamps (CFLs), which are suitable substitutes for virtually all incandescent bulbs. As a result, lighting recommendations were identified in all the facilities audited.



- HVAC systems represent around 40% of the electricity use in office buildings. If HVAC systems are not tuned up and optimized on an annual basis, it is likely that the systems are not operating as efficiently as possible. HVAC recommendations were identified in all the facilities audited.

- A cold drink machine operating 24 hours per day, seven days a week – usually keeping drinks cold when no employees are around – represents a significant waste of energy and is a source of unnecessary

emissions. Occupancy sensors can be installed on the machines to allow the machines to go into a dormant state when no employees are around. This was also recommended at all facilities that have vending machines.

The development of these recommendations was based upon generally accepted best practices that have been implemented at worksites throughout the country. Various documents were utilized in the development of these recommendations, including information available on EPA's *Energy Star* web site and the Department of Energy's *Energy Efficiency and Renewable Energy* web site.

Some of the other major audit findings included identifying inefficient uses of compressed air, which is a very expensive and emissions-intensive utility. Compressed air leaks were discovered during audits of manufacturing facilities, and recommendations were made for the development of alternative methods, coupled with implementation of regular compressed air leak detection programs.

Another major audit finding and recommendation for certain facilities was the replacement of metal halide fixtures with lower wattage T5 fluorescent lamp fixtures, which have the option of being controlled with motion sensors. If implemented, these recommendations will result in very significant energy usage reductions and emissions reductions.

Implementation and Next Steps

Businesses were more receptive to recommendations that have short payback times and those that require little or no capital expenditures. Limitations on capital funding for these types of projects is one major impediment to seeing these energy-efficiency improvements be implemented. Businesses with top level commitment to energy efficiency and emissions reductions were more receptive to recommendations.

Three months prior to the conclusion of the project, URS created a one-page operational feedback form that was presented to participating businesses to learn more about what programs they had implemented (or planned to implement), based on audit recommendations. Partners received this information at various stages of the process and the response to this form was somewhat limited. Many employers had not yet had a chance to implement programs and were still discussing the information in their follow up reports.

Of the companies that were presented with their operational audit recommendations, the following businesses have reported implementing new programs:

- Bissell Companies installed energy misers on all vending machines in their office as well as in 25 building common areas. Bissell also instilled lighting motion sensors in all restrooms in their building portfolio as well as in electrical and mechanical rooms.
- To replace outdated incandescent lighting, Bowater installed approximately 50 CFLs in their Catawba administrative building. Bowater also reduced operational hours of their HVAC in the administration building.
- To reduce vehicle idling at their worksite, Citi Fort Mill implemented an anti-idling policy at their loading dock. Citi receives approximately 27 regular deliveries weekly totaling approximately 775 minutes that delivery vehicles no longer idle.

It should be noted that Citi Fort Mill and Harris Teeter Indian Trail Distribution Center had already completed a great many energy efficiency improvements prior to participating in their CAW audit. These two Partners are prime examples of energy efficiency leaders who continually strive for excellence (Citi Fort Mill for office buildings and Harris Teeter Distribution Center for the manufacturing/distribution sector).

BaxterHarriss in Gastonia offers another example of a Partner using creative incentives and the employees' bottom-line to produce more energy efficiencies at their worksite. BaxterHarriss' employee bonuses are linked to the facility's energy efficiency and emissions reductions. The money saved on energy bills helps pay for these bonuses, as well as staff parties.

With almost half of the operational audit follow up reports being delivered at the end of 2007 and beginning of 2008, many employers need more time to discuss and process the information in their reports, and more time to secure the necessary decisions and approvals, before implementing programs. In addition, since most recommendations require capital expenditures, it is taking employers longer to receive approval and budget for expenses. For example, American & Efird is committed and interested in implementing its audit recommendations, but since its recommendations are more capital intensive, they will take longer to implement. URS recommends a three-month follow-up survey be conducted with all 2006 and 2007 Partners, to determine the level of implementation.

General v/s Unique Recommendations

Several general recommendations were developed at practically all of the Partner locations audited. These common general recommendations included the following:

- Turning off facility lighting during off-hours, including outdoor lighting
- Reducing lighting levels in over-lit areas
- Replacing incandescent lamps with compact fluorescent lamps (CFLs)
- Conducting regularly scheduled tune-ups and retro-commissioning of HVAC systems
- The installation of "vending misers" on vending machines

In addition, several unique recommendations were developed for certain facilities, particularly manufacturing locations:

- Changing 400 watt metal halide fixtures to lower wattage 6-tube T5 fixtures and motion detectors (in some cases)
- Implementing compressed air leak detection and repair programs in facilities with significant air use
- Replacing the use of compressed air for certain applications to lower cost blowers
- Implementing failed steam trap detection and replacement programs in facilities with significant steam systems
- Turning off process equipment, heaters, and conveyor belts when not in use, and the installation of automatic shut-offs to help accomplish this when appropriate

Scheduling Challenges

There were some identifiable challenges throughout the course of trying to schedule Partner operational audits. While there was impressive audit participation from both new and well-established Partners, still others were hesitant to participate. Some employers, like UNC Charlotte, had already hosted an energy audit at their worksite through another energy-related program and were not interested in conducting another so quickly, while others (like Central Piedmont Community College) simply had difficulty getting approval from upper management to hold the audit.

Since most CAW Project Leaders work in Human Resources and/or marketing; these individuals were not ideally suited to endorse an audit. In such situations, the team went through multiple communication channels with company contacts, before an audit could be scheduled. A related circumstance was that many Partners lease, and do not own, their office

space; many in this situation felt it was not their role to conduct an audit, since they don't control building operations.

In addition, approximately 25% of new 2007 CAW Partners operated in a very small office, with many employing fewer than 20 individuals on site. Many expressed the sentiment that making such small-scale operational changes would likely have a minimal impact. Furthermore, many of the 2007 Partners were recruited somewhat late in the program year and were already occupied with implementing their air quality education and commute option programs. Employers expressed feeling overwhelmed trying to implement multiple programs all at once and elected to delay their operational efforts.

Lessons Learned: Worksite Operational Programs

From the operational audits performed during 2007, it was clear that opportunities for energy efficiency improvements and resulting NOx emissions reductions exist at every office building, distribution center, and manufacturing facility. The level of awareness concerning energy conservation and emissions reductions varied greatly across the facilities audited. Some companies and organizations have already taken significant steps towards improving energy efficiency and reducing emissions. Others have not taken significant steps, but through their participation in the operational audit program, have shown interest in these goals and the resulting economic benefit.

Worksite operational audits were well received by Partners: Although most of the audit recommendations did not uncover large-scale opportunities the program had originally hoped to, opportunities for energy efficiency improvements and resulting NOx emissions reductions existed at every office building, distribution center, and manufacturing facility audited. Audits were well received by Partners as they started putting together corporate-initiated sustainability programs, or included findings in their current sustainability program.

The extent to which companies and organizations can implement energy conservation practices fluctuates greatly. Project implementation depends greatly on the economics of the practices and projects, the resulting paybacks, and the financial situation of the company or organization. However, there are many energy conservation practices that can be put into place at every office building, warehouse, distribution center, and manufacturing facility that provide very quick paybacks. It would be very beneficial to find a method to communicate this fact to all companies and organizations across the region.

Project Leader Workshops

Clean Air Works! offered its partners four networking opportunities to hear best practices and coordinate with other Project Leaders, throughout 2007 and early 2008. Each session was held at a different location in the region, with consistently high attendance levels. Partner feedback from each of the sessions was very positive. Partners were most interested to learn new program ideas from their partner colleagues to take back and implement at their own worksite.

Approximately 40 individuals attended first session, held in February at Piedmont Natural Gas. Participants discussed the CAW 2007 program and brainstormed new ideas for the year. URS then implemented several new programs during 2007, based on this feedback. New offerings included the Project Leader incentive program, Project Leader Perks, along with expansions to the TripTrak commute log calendar, to allow monthly tracking.

The second Project Leader Workshop was held at Duke Energy's Uptown campus, with approximately 25 attendees. CAW invited three partners to speak about their CAW program: American & Efird, Duke Energy and Food Lion. Partners in attendance were pleased to learn new program ideas from their partner colleagues at the event. The third CAW Project Leader Networking session was held at National Gypsum in September, with approximately 40 people in attendance. Guests received updates on air quality from Don Willard, Director of Mecklenburg County Air Quality; an overview of operational audits from Jimmy Summers; and a partner case study summary from Dale Herendeen of Bowater.

A fourth and final session is scheduled for January 2008; agenda items include planning for the future of *Clean Air Works!*

Program Outcomes and Measures of Effectiveness:

Within the 48 worksites recording data during the program year, approximately 130,242 alternative commute trips were reported in 2007 – more than triple from 2006. The breakdown across alternative modes (i.e., all but drive alone) is as follows:

- 41% in 2007 were made by carpoolers (53,445)
- 60% in 2006 were made by carpoolers

- 44% in 2007 were made by transit riders (57,170)
- 27% in 2006 were made by transit riders

- 6% in 2007 were made by vanpoolers (8,339)

- 4% in 2006 were made by vanpoolers

- 3% in 2007 were made by walkers (3,499)
- 5% in 2006 were made by walkers

- 3% in 2007 were made by cyclists (3,495)
- 3% in 2006 were made by cyclists

- 3% in 2007 were made by teleworkers (4,294)
- 2% in 2006 were made by teleworkers

This data is presented in its entirety in Appendix A. In Table 4 that follows, the data is presented in the aggregate from February 2007 to January 2008; however, many of the companies whose employees tracked did not track for twelve full months, as some did not implement programs or begin tracking until later in the summer.

Table 4: Distribution of Trips by Mode

	Paper Log Totals (RT)	TripTrak Totals (1-way)	Total # trips (1-way)	% Total
Carpool	11,382	29,686	52,450	42%
Vanpool	48	8,005	8,101	6%
Transit	153	53,196	53,502	43%
Bike	122	3,179	3,423	3%
Walk	406	2,654	3,466	3%
Telecommute	4	3,872	3,880	3%
Total Trips	**12,115**	**100,592**	**124,822**	**100%**

Carpooling and transit, again in 2007, represent the two most dominant existing alternative commute modes. Other key findings include:

The number of carpooling trips increased in number, but fell as a percentage of overall trips recorded from 60% in 2006, to 42% in 2007. This could be attributed to the transit pass programs offered by two key *Clean Air Works!* partners: Duke Energy and Moore & Van Allen, who both announced new 100% subsidy programs in 2007.

Vanpool trips captured during the summer increased minimally (from 4% in 2006 to 6% in 2007) as did trips reduced by teleworking (increased by 1% from 2006 to 2007).

Transit trips saw the largest increase in tracking by approximately 15% in 2007 (from 28% in 2006 to 43% in 2007).

The number of walking trips reported fell by 2% in 2007 (from 5% in 2006 to 3% in 2007); bicycle trips remained a consistent 3% of all alternative trips captured.

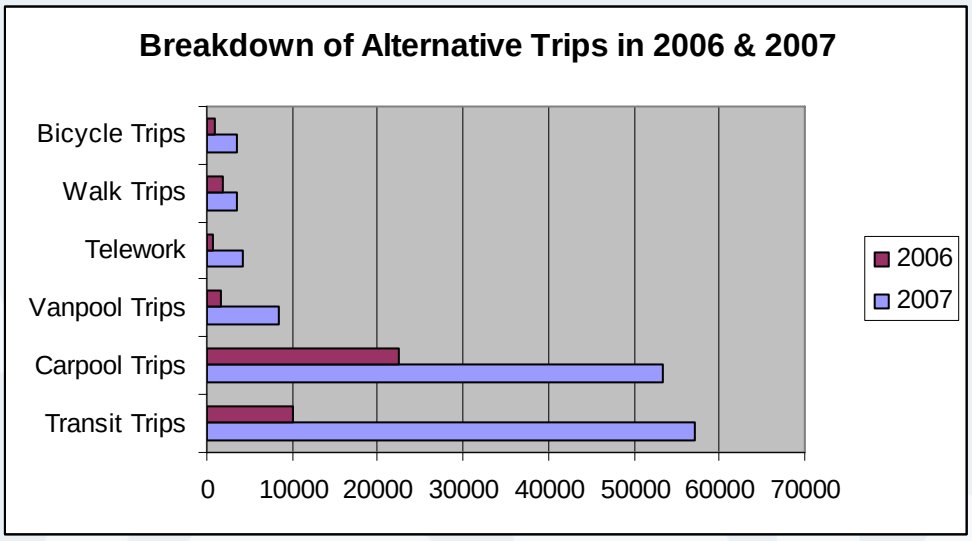


Figure 8: Breakdown of Alternative Trips in 2006 and 2007

Emissions Reductions

A key measurement of success for the 2007 *Clean Air Works!* program was the extent to which NOx reductions could be achieved through both commuter and operational programs. A detailed table of monthly NOx reductions by worksite for commuter programs only, is included in Appendix A. Table 4 illustrates these summary findings, along with the number of worksites tracking each month. Reductions for 2007 totaled 2,354 lbs. NOx through commuter programs, compared with 680 lbs. NOx that were reduced during the Pilot program, through similar efforts. Emissions reductions stemming from operational changes at the worksite are presented in Appendix A.

Table 4 below illustrates a monthly comparison of emissions reduced (i.e., as reported through commute tracking), for 2006, 2007, and January 2008. In 2006, the chart shows the peak reductions occurring during July; in 2007, the peak came during August.

Month	Lbs. Nox Reduced	# of Worksites Reporting
February	38.60	9
March	38.73	9
April	86.54	17
May	230.22	24
June	297.55	29
July	322.34	32
August	440.25	32
September	368.90	32
October	322.71	32
November	207.87	24
December	144.61	19
January	74.53	20

Table 5: Emissions Reduced from Commuter Programs

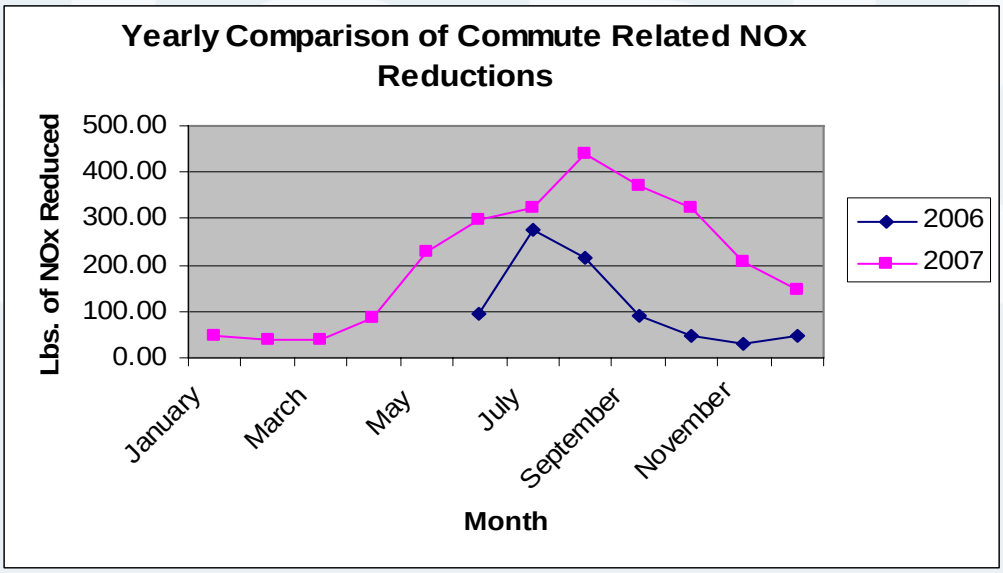


Figure 9: Annual Emissions Reductions by Month

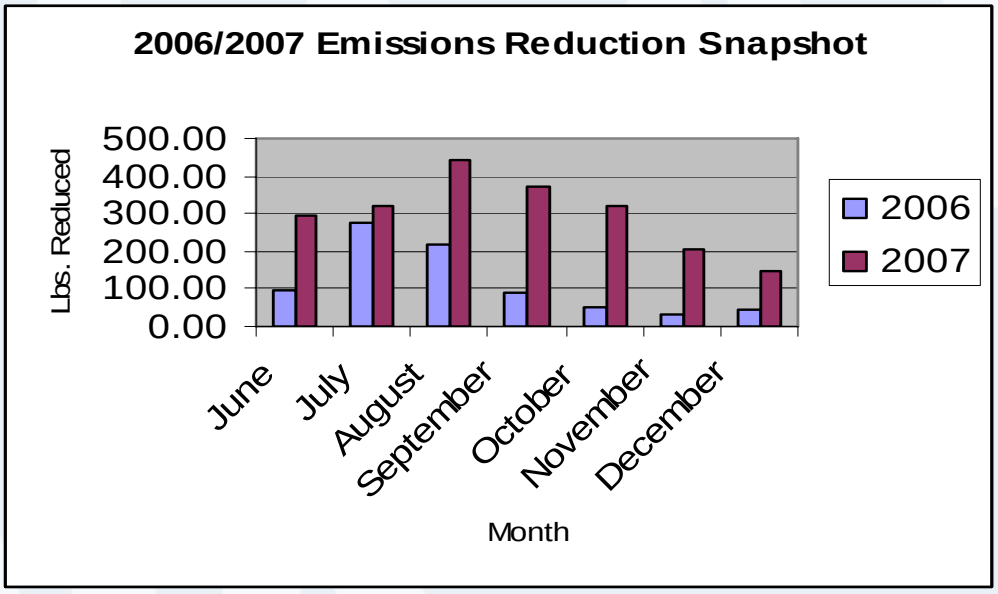


Figure 10: Monthly Emissions Reduction Snapshot 2006 and 2007

Reductions in Vehicle Miles Traveled

Another measurable outcome of the 2007 program is the overall reduction in vehicle miles traveled (VMT). A total of 1,640,522 miles were reduced through January 2008, as reported by participating employers who tracked travel behavior. Figure 11 below shows the greatest VMT reductions achieved at the top six participating employer worksites: Wachovia, Duke Energy, Food Lion, Moore & Van Allen, First Charter and UNC Charlotte:

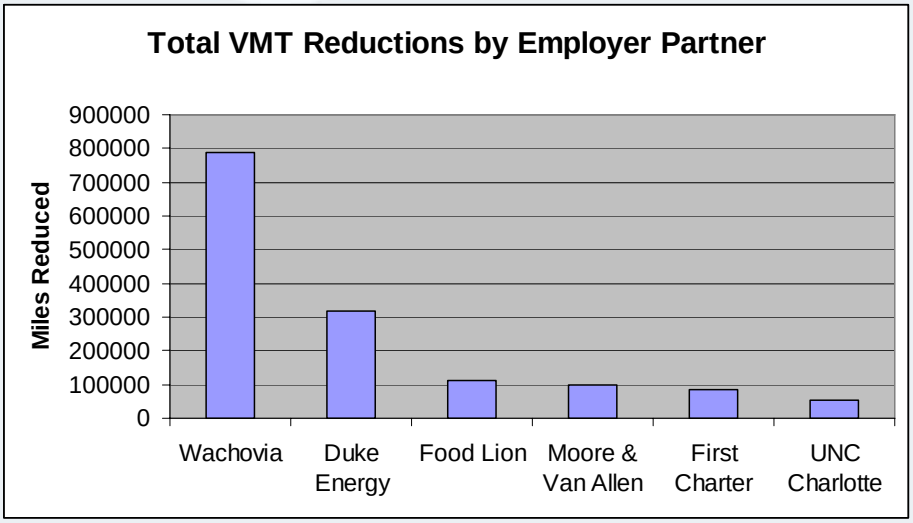


Figure 11: Total VMT Reduced by Top Six Employer Partners

Fluctuation in Tracking Behavior During Ozone Season

Data collected daily between May and September 2007, were reviewed to determine whether the forecasting of Ozone Action Days (Alert Days) had an influence on the numbers of individuals changing mode, or whether there were any notable increases in tracking activity on these days.

The first assessment compares the change in overall reporting of travel behavior on Alert Days from 2006 to 2007. Shown in Table 1, the number of individual trips reported on Alert Days rose from 65 reported carpool trips (on average) in 2006, to 242 trips reported on average during 2007. The percentage change is also presented below. Transit trips reported on ozone-alert days grew by the highest margin, increasing by 340 trips per day, on average – an escalation of 2,000% over 2006 activity. Because the raw numbers changed so significantly, the percentages are correspondingly high.

Table 6: Change in Average Trips Reported (Alert Days)

	Drive Alone	Carpool	Vanpool	Transit	Bike	Walk	Telecommute
2006 Alert Day	101	65	11	17	8	10	10
2007 Alert Day	289	242	59	357	23	19	27
Difference	188	177	48	340	15	9	17
Percent Change	186%	272%	436%	2,000%	188%	90%	170%

The following chart illustrates the average number of daily trips reported on all weekdays (excluding holidays), during 2007, on both Alert and Non-Alert Days. This was calculated by taking the total number of all trips reported on both alert and non-alert days, divided by the number of alert days, and non-alert days during 2007.

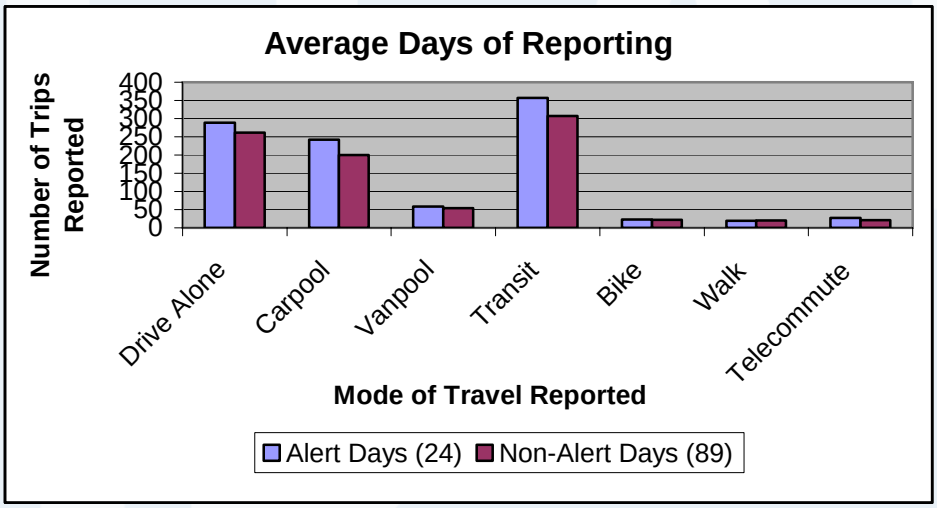


Figure 12: Reported Trips on Alert and Non-Alert Days 2007

Figure 12 illustrates that the average number of trips reported on Alert Days was somewhat higher than those reported on Non-Alert Days, for transit, carpooling, vanpooling, telework, and driving solo.

Alert v. Non-Alert Day Tracking

The data were also reviewed to determine whether there were any notable differences with regard to tracking, on Alert versus Non-Alert days. Were individuals more or less likely – and by what margin – to report their behavior on either day? While the data set was not large enough for comprehensive analysis with a high degree of statistical validity (82 days of tracking behavior for non-alert weekdays and 24 weekday alert-days), there were some interesting observations from this assessment, as seen below:

Table 7: Change in Reported Behavior on Alert v. Non-Alert Days

	Drive Alone	Carpool	Vanpool	Transit	Bike	Walk	Telecommute
Increase in Alert-Day Reporting	10%	21%	8%	16%	4%	-4%	28%

The table above illustrates the percentage by which travel-mode reporting changed on Alert Days, versus Non-Alert Days. There was a notable increase in the number of telework trips reported on Alert Days – 28% higher than on Non-Alert Days. Carpooling and transit trips were also reported at an increased rate, as were drive-alone and vanpool trips. Bicycling trips were reported at only a

marginally higher rate than on Non-Alert Days; walking trips reported declined slightly on Alert-Days. These changes are presented visually in Figure 13, and summarized below.

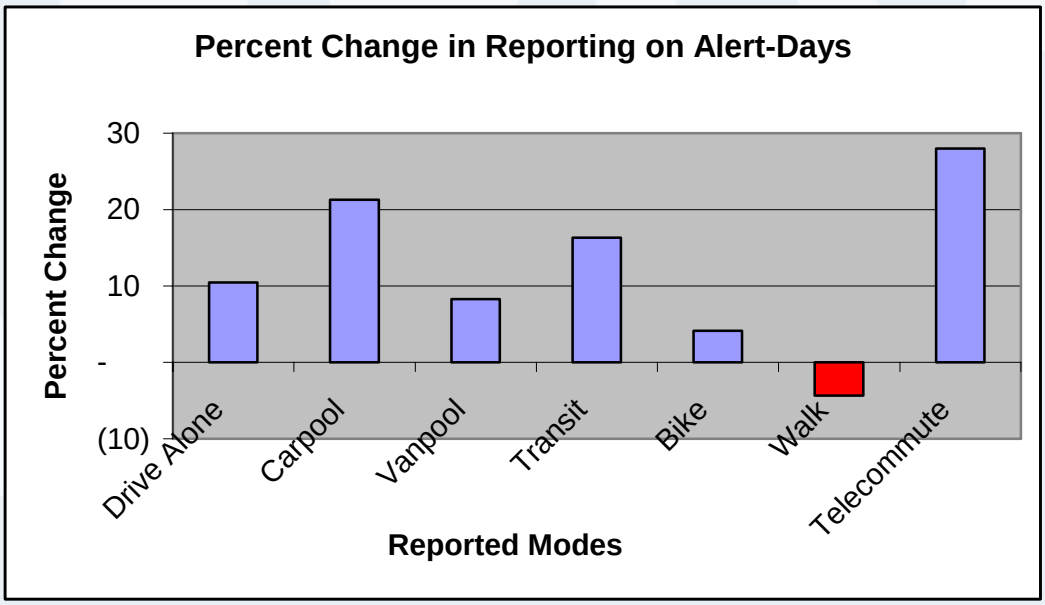


Figure 13: Percent Change on Alert v. Non-Alert Days

The significant increase in telework trips being reported may suggest that this is the mode most easily selected on short notice, enabling commuters to act quickly to alter their travel behavior the day following an ozone alert. Consistent with the Pilot year findings, the data also show a 16% increase in the number of transit trips reported on alert days over non-alert days. This behavior was particularly encouraged at several worksites, through the promotion of 100% subsidies and free 10-trip transit passes on CATS' system.

The number of drive-alone trips reported on Alert Days also increased, but by a smaller margin, rising 10%. There was only a small increase in reported bicycle trips on alert-days (4%), followed by a 4% decline in walking trips reported (19 trips on alert days; 20 trips on non-alert days). The marginal increase in bicycling and the drop in walking trips may indicate that due to the presence of high temperatures and a worsening of air quality, more commuters who regularly use these methods chose another means, so as to avoid greater exposure to pollution.

The 8% change in vanpool trips reported on ozone alert days may indicate that individuals who are a registered member of a vanpool (but who also use another mode, like driving alone periodically), may have chosen to vanpool on an alert day. [It is unlikely that the 8% increase in reported trips signifies an increase in

new vanpool activity, since formation typically requires time and coordination, and cannot easily be chosen on very short notice.]

Based on these initial findings, it would seem wise that any future programs continue or amplify the dissemination of ozone alerts. It should be noted that a commuter's ability to take action on ozone alert days is predicated on their employer's support of such programs, their working knowledge of available commute options, and their personal motivation to use them.

Lessons Learned: Measurement and Tracking

Strategies selected for implementation depended upon corporate culture and many other factors: Many of the worksite strategies implemented depended on the employer culture, location, nature of the workforce, ability to make changes quickly, etc. For instance, manufacturing facilities and distribution centers were more likely to implement operational-type programs like anti-idling and delayed refueling, etc. Most of the white collar employers located in Uptown Charlotte did not implement operational programs, but instead concentrated on commute options programs. These employers had better access to transit and offered flexible work hours that are more conducive to carpooling, vanpooling and transit.

Meaningful incentives helped to increase levels of reporting: With the tracking numbers more than tripling in 2007, there is evidence that the CAW Commuter Perks program was successful in generating more tracking participants and thereby presenting a more realistic picture of changes being made in employee commute behaviors.

Marketing and Program Branding

Since project start-up, URS and subconsultant Cookerly Public Relations (CPR) have worked together to develop and execute a marketing program that includes regional branding, print collateral materials for all audiences served by the project (Partners, employees, media, and internal stakeholders), and a project Web site.

Program Branding

In 2007, the team continued building brand and Partner visibility and credibility; created marketing support materials to enhance outreach efforts and provide Partner worksite support; and executed two successful events. These activities are described more fully below:

Web Site

CPR maintained and updated the *Clean Air Works!* Web site throughout the year, creating an ongoing resource for ETCs and others interested in the *Clean Air Works!* program. These updates included: incentives information, news releases and story coverage, monthly Project Updates, and other changes to reflect accurate programs and services as provided by the project outreach team. In addition, the team created an email Inbox for GRH applications by ETCs and others.

Collateral Marketing Support

To assist the outreach team in securing corporate and executive-level buy-in, build partnerships and encourage participation, the marketing team developed a number of tools for reaching Charlotte-area business leaders, including:

- Completed nine Partner case studies for use in recruitment and media efforts
- A fully designed and printed sales/Welcome kit, which includes:
- Program one-pager
- Sign-Up Sheet
- Partner list (updated regularly)
- "In the News" one-pager, highlighting outstanding coverage for Partners
- Pocket folders
- Project Leader training evite template and four completed evites for use in announcing training seminars

- Monthly Project Updates, to highlight outstanding workplace programs and keep Partners engaged; and
- Partnership Certificates, for distribution at the awards event.

CPR also created a wide variety of marketing and collateral materials for use by the workplace Project Leaders, to increase their understanding of the broad range of program options, and to enhance their abilities to market the program internally to employees.

These tools include:

Project Leader Toolkit: The Partner toolkit was completely updated and expanded for 2007. New tabs, cover and section heading pieces were designed, and the toolkit reference pieces expanded from 26 to 54 reference tools, including all employer Success Stories, TripTrak paper logs, Perks information and idea forms, operational audit information, and marketing tools to support Gas Cap Checks, Perks, changes to GRH and more. The marketing team delivered the toolkit in a 3-ring reference binder (with designed cover and spine), as well as on a CD-ROM.

Worksite Marketing Materials: CPR also developed a group of promotional pieces to support business outreach activities. These were used primarily by the URS outreach team as they worked with Project Leaders to implement individual programs at different Partner worksites. These include:

- Banner stand displays for worksite events
- Thank you note cards
- 'Try It Day' yard signs and 'Carpoolers Stop Here' a-frame signs
- 'Help Keep The Air We Breathe Clean!' stickers, reminding drivers to avoid idling, delay refueling, and avoid topping off their gas tank
- Don't Forget To Turn It Off' stickers, reminding employees to turn off their overhead lighting and computers when leaving the office in the evening
- New name and updated text for the customized TripTrak (formerly CommuteTrak) Web sites, used to track employee commute behavior
- Window clings for Partner worksites

Public Relations / Media Coverage

One of the benefits and corporate "draws" to the program was the opportunity for regional businesses to receive recognition for their efforts at improving air quality throughout Metrolina. CPR developed a series of public relations events and media opportunities, to highlight business participation in the program. The first of these was a kick-off breakfast for partners.

Spring Partner Breakfast

To engage existing and attract new Partners to the project, CPR planned and executed a breakfast event on May 24 at Queens College. The team handled all planning and logistics, including, but not limited to:

- Extensive site research, selection and coordination;
- Collateral development and printing of Kick-Off flier, Save the Date, invitations, programs, PowerPoint presentations, banners, success stories on storyboards, and signage;
- On-site logistics, such as centerpieces, audio/visual management, set-up, and event management;
- Developing talking points and a program outline for speakers; and
- Coordination of all pre, post, and day-off media relations.

The event was successful in engaging existing Partners and generating excitement for the second year, with approximately 65 people in attendance.

Clean Air Works! Awards

To recognize the significant efforts made by nearly the 90 Partners in the project, the consultant team planned and executed an "end of season" awards luncheon on Tuesday, October 9th at the CPCC Harris Conference Center. Approximately 135 people attended the event, ***a 26% increase over 2006***, which recognized specific Partners and individuals for their outstanding program efforts, and provided a venue to congratulate all participants for their work. Tasks completed include, but are not limited to:

- Developed new name and awards categories for event, since the "Clean Air Challenge" did not take place in Year Two.
- Researched, selected and coordinated site/venue
- Developed collateral and managed printing
  - Save the Date postcard
  - Invitations (including multiple redesigns)
  - Programs

  - Certificates and frames
  - Awards
  - PowerPoint presentations
  - Banner and signage
- Managed on-site logistics
  - Catering
  - Centerpieces/giveaways – cookie bouquets
  - Set-up and event management
  - Drafted talking points for speakers: Dave Franchina, Tom Skains, and John Wendel
  - Secured John Wendel as awards presenter
  - Managed photographer
- Coordinated judging process
- Determined name changes/additions for awards event and names for award categories
  - Drafted nomination and judging forms
- Pre-event and on-site media relations
- Drafted and distributed pre-event media advisory and post-event press release
- The *Charlotte Observer* attended the event and provide day-of coverage

Clean Air Works! Press Kit

CPR maintained the media relations program to engage employers and employees, build stakeholder support in the program, and provide ongoing recognition for Partner efforts. The press kit was updated to reflect program changes and expansion, and the Partner list was updated regularly to reflect program and issues changes, adding more comparative statistics (such as TTI) to provide newsworthy information to media outlets across the region and beyond.

Media Meetings

CPR continued to solicit face to face Partner meetings for *Clean Air Works!* leadership to engender ongoing relationships and coverage for the project. The contractors pitched and secured several informational and backgrounder meetings with area media:

- February: *Charlotte Magazine*
- February: *Charlotte Observer*

Press Releases

Over the course of the project, CPR drafted press releases as needed to make announcements and engage the media. In 2007, seven press releases were drafted and distributed to the media, along with 10 more targeted media advisories created and distributed (used to announce Partner events to county-specific media)

- 1.08.07 - *Clean Air Works!* Partners Resolve to Clean the Air in the New Year
- 1.25.07- *Clean Air Works!* Poised to Tackle Air Quality in 2007
- 5.1.07 - *Clean Air Works!* Marks the Start of Ozone Season with Addition of New Partners
- 6.13.07 - *Clean Air Works!* Marks the Start of Summer with 12 New Partners
- 7.30.07 –*Clean Air Works!* Brings Six New Partners on Board
- 9.04.07 - Nine New Partners Join *Clean Air Works!*
- 10.09.07 - *Clean Air Works!* Honors Employers and Individuals Who Helped Clean the Air in the Charlotte Region

Media Coverage

The advertising equivalency of the media placements in 2007 was approximately $11 million.

Media placements from January through November totaled 103 individual articles throughout the Metrolina region and beyond, a 29% increase in sheer numbers over 2006 coverage, due in part to a longer timeframe of media pitching (11 months vs. 8 months). The total audience reach for this press coverage was more than 185 million people.

The advertising equivalency of the media placements is approximately $11 million; this reflects the prices that would be paid to the publications, broadcast outlets, an/or online sources for the same or similar-sized advertisement, and all costs are gathered from national audited circulation and rate sources. The editorial value was over $30 million; this reflects the industry standard value applied to editorial coverage, based on credibility and third-party endorsement.

The editorial value of media coverage was equal to 214 times the total public relation budget, a significant return on investment.

A detailed listing of individual articles by date, location, and title, is provided in Appendix B. The significant increase in value this year in due in large part to extensive high-profile online source pick-up on news coverage, combined with the increasing costs of online media as more and more people use the Web as their primary source of news.

Content Analysis - Media Coverage

Media coverage for the *Clean Air Works!* project was strongest from May through October, owing in large part to the timeliness tie-in of ozone season, as well as to the concentration of "news" during those months – more new Partners, more Partner events. Media relations provided the opportunity to highlight the programs and services provided by *Clean Air Works!,* as well as to position the project and its participants as leaders in the region's efforts to reduce air pollution and improve traffic congestion.

More than 98% of 2007 media stories reflected positively on *Clean Air Works!*.

Tracked publicity was overwhelmingly positive for *Clean Air Works!* when stories were reviewed and coded to determine article perspective:

- More than 98% reflected positively on *Clean Air Works!*
- Approximately 2% was neutral

Successful media relations activities build brands, deliver key messages, drive program participation, highlight employer leaders and motivate changes in behavior. Particular key messages delivered included:

- 92% of coverage helped to build the brand by including the *Clean Air Works!* project name
- 81% of coverage mentioned employer Partners by name
- 60% of stories connected air quality improvement to commuting changes
- 62% of stories mentioned specific project elements/programs, such as transportation fairs and employer-offered rewards.

Media relations efforts also focus on attaining broad geographic representation. This is important for two reasons: 1) to ensure that the residents/employers of the entire non-attainment region are being served; and 2) to ensure that the air pollution problem is viewed as a regional issue in order to motivate behavior change.

The biggest changes this year were the significant increase in exposure on national and international hi-profile Web sites, including MSN.com, CNNMoney.com, Yahoo!, Reuters, and SmartMoney, along with a significant decrease in TV and radio coverage. The feedback from reporters and producers at the area broadcast outlets was primarily that they had covered the T-days, gas cap check events and other Partner worksite events in 2006, and the lack of compelling individual stories (see effectiveness section below) hindered CPR's broadcast media pitching.

- 44% of placements were regional print (The Charlotte Observer, regional Web sites).
- 39% appeared in national online outlets, major market sources outside of Charlotte, and wire services
- 9% appeared on broadcast outlets

- 8% appeared in specific regional county publications outside of Mecklenburg

Lessons Learned: Media Effectiveness

Overall, the combination of marketing and media tactics remained effective in keeping the visibility high for *Clean Air Works!* and its Partners; as well as providing sales and marketing support for the project outreach team. Employers utilized the items in the Toolkits frequently for employee postings and newsletter articles. The most widely used pieces included 10 Solutions To Air Pollution, Why Refuel in the Afternoon, and Ridesharing Has Its Rewards. Employers also used the posters, paycheck stuffers, and table-tents to help promote worksite events and programs.

The media relations program was successful for the majority of the project term. As noted above, coverage was effective in delivering recognition for Partners, branding the project and creating an overwhelmingly positive image. However, there were some "bumps in the road," including:

- ***Media participation varies among Partners.*** Media relations work for this type of organization is time intensive. To be most effective, the public relations team has to work with many people outside of the core organization (i.e., from within Partner worksites), to get quotes and information about programs, to identify commuters for interviews, and to schedule filming and phone interview times. When Partners were unable or unwilling to participate in interviews, or allow CPR to talk to their employees, coupled with the deadline-intensive nature of the media, the CPR team was forced to forego several media interview opportunities. Some companies continued to decline media opportunities because they didn't want to go "on the record" until their programs were more established. Because of these issues, CPR struggled to find "new" news and human interest stories to provide to the media, thereby generating even more exposure for the project.
-
- ***More "new" individual commuter stories would enhance media attractiveness of the program.*** The media loves stories about individuals – how they changed their commutes, became advocates for "green" actions, saved money. CPR struggled with identifying and being able to use real commuters in media pitching. Many tactics were undertaken to overcome this hurdle, such as including a TripTrak question asking people to tell us their stories for their "15 minutes of fame," creating a storybank database, and working closely with the URS outreach team to identify willing

participants. Despite these tactics, CPR's success was limited. If the project were to be continued in the future, placing greater emphasis on this area would aid in delivering greater media placements.

Clean Air Works! Summary of Program Findings and Lessons Learned

1. ***"Top Down" corporate support was critical to success in 2007:*** The involvement of existing Partners and private sector business leaders was critical to the project's success in 2007. Not only did the 2006 partners help to recruit new businesses into the program in 2007, they also motivated other businesses to deepen their programs by showing the successes of their own worksite programs. Worksites with "top down" commitment from their CEOs showed greater survey response, more employee tracking, and ultimately, greater participation.

2. ***Corporations need time to make decisions:*** Implementing programs that ultimately affect an employer's workforce and bottom-line take time. Although smaller businesses were generally able to adopt programs more quickly than larger ones, there still was a period of surveying and decision-making that each company had to endure. Decisions also took longer if an employer were considering investing monetarily into a program. In some cases, employers indicated budgets had to be approved six months to a year in advance. Unfortunately, delayed onset of 2007 Partner recruiting again impacted the speed with which new Partners could adopt and implement programs. On the other hand, the extension of the 2006 Pilot for another calendar year enabled increased depth of programming and funding (e.g., Duke's 100% transit subsidy) at existing Partner sites.

3. ***Financial incentive programs generated significant trip reductions:*** Duke Energy, who increased their $50 transit and vanpool subsidy to a 100% subsidy during 2007, generated significant increase in transit usage during year two. Moore & Van Allen also saw success when they began offering fully subsidizing transit passes late in the summer.

4. ***Strategies selected for implementation depended upon corporate culture and many other factors:*** Many of the worksite strategies implemented depended on the employer culture, location, nature of the workforce, ability to make changes quickly, etc. For instance, manufacturing facilities and distribution centers were more likely to implement operational-type programs like anti-idling and delayed refueling, etc. Most of the white collar employers located in Uptown Charlotte did not implement operational programs, but instead concentrated on commute options programs. These employers had better access

to transit and offered flexible work hours that are more conducive to carpooling, vanpooling and transit.

6. ***Worksite operational audits were well received by Partners:*** Although most of the audit recommendations did not uncover large-scale opportunities the program had originally hoped to, opportunities for energy efficiency improvements and resulting NOx emissions reductions existed at every office building, distribution center, and manufacturing facility audited. Audits were well received by Partners as they started putting together corporate-initiated sustainability programs, or included findings in their current sustainability program.

7. ***The extent to which companies and organizations can implement energy conservation practices fluctuates greatly.*** Project implementation depends greatly on the economics of the practices and projects, the resulting paybacks, and the financial situation of the company or organization. However, there are many energy conservation practices that can be put into place at every office building, warehouse, distribution center, and manufacturing facility that provide very quick paybacks. It would be very beneficial to find a method to communicate this fact to all companies and organizations across the region.

8. ***Meaningful incentives helped to increase levels of reporting:*** With the tracking numbers more than tripling in 2007, there is solid evidence that the CAW Commuter Perks program was successful in generating more tracking participants and thereby presenting a more realistic picture of changes being made in employee commute behaviors.

9. ***Marketing and media tactics remained effective despite varying media participation amongst Partners and lack of commuter stories.*** The combination of marketing and media tactics remained effective in keeping the visibility high for *Clean Air Works!* and its Partners; as well as providing sales and marketing support for the project outreach team. Media coverage was effective in delivering recognition for Partners, branding the project and creating an overwhelmingly positive image.

Recommendations

In 2007, *Clean Air Works!* demonstrated that positive changes can be achieved when the public and private sectors collaborate. Employers across eight counties worked together in a well-publicized initiative to reduce pollution and ease congestion. Eighty-nine companies got involved, and reached 80,000 commuters traveling throughout the Metrolina region. During more than 225 events held at participating worksites, employees learned what they could do individually to "go green". Nine hundred commuters total registered for carpool and/or vanpool matches; they began using the transit system and started walking to work. They tracked their commuter behavior daily, and were recognized for their participation. Together, this group reduced more than 1.7 million miles of travel and removed nearly 2,600 pounds of NOx from our air.

Employers started over 120 new commute trip-reduction programs during 2007. Fourteen new employers began offering trip-tracking online, to evaluate their company's individual impact on cleaning up the air. A total of 48 worksites across the region tracked their efforts throughout the year.

Thirty-eight worksites hosted an operational energy audit to learn which proactive changes they could make to their business practices to reduce their carbon footprint. Nearly 75% of these companies had been participating in *Clean Air Works!* for a year, before agreeing to an audit. For most, the success of their trip-reduction programs grew into a willingness to explore new operational changes. When implemented, the recommendations presented to businesses in their 2007 audits are projected to reduce more than 9,000 pounds of NOx per year.

Additionally, 60 companies promoted Gas Cap Check events. Of the 4,000 vehicles checked, 171 were identified as deficient. Replacement of these caps is preventing 765,400 lbs. of evaporative emissions annually.

Media placements during 2007 totaled 103 individual articles in news outlets throughout the Metrolina region and nationally. The increased exposure represents a 29% increase in sheer numbers over 2006 coverage and an audience reach of more than 185 million people. The advertising equivalency of the *Clean Air Works!* media placements is estimated at $11 million – or 214 times the total public relation budget, a significant return on investment. Perhaps as important, 98% of all media coverage was positive – only 2% was neutral – and all was effective in reaching program goals:

- 92% helped to build the brand by using the *Clean Air Works!* name
- 81% of coverage mentioned Metrolina business Partners by name
- 60% of stories linked commuting changes to air quality improvement

- 62% of stories mentioned specific elements of the program

The following are our key recommendations for continued program success:

- Provide continual outreach to the business community. Any significant lapse in service to employers may cause them to lessen or discontinue their efforts.
- Strengthen the involvement of existing Partners in recruiting new employers and in public relations efforts
- Continue proactive recruiting activities in all eight counties
- Continue regional networking and Partner collaboration through regular networking/training sessions
- Sustain incentive program funding to encourage trial mode shift and reward sustained behavioral changes
- Continue to offer environmental audits to current and future Partners to reduce worksite NOx emissions
- Explore a new institutional framework for the program with a broad-base of private and public sector guidance, either through an Advisory Board or Steering Committee
- Secure sustainable private-sector funding as a match for continued public support of the program
- Extend the program horizon in three-year increments to foster sustained activity and reduce uncertainty within each Partner site

APPENDIX A:

EMISSIONS REDUCTIONS BY EMPLOYER

OPERATIONAL REDUCTIONS

TRIPS BY TRAVEL MODE

APPENDIX B:

2007 AWARD WINNERS

MEDIA CLIPS AND COVERAGE