

WHERE WE STAND

Ecology and Environmental Awareness Committee 2008 Report

Green Building Principles and Practices

Background Information

The U.S. Green Building Council has created a nationally standardized code of Green Building principals and practices, the LEED Rating System. The built environment substantially consumes energy and resources, but it is sustainably possible to reduce environmental impacts from the construction and operation of buildings.

LEED (Leadership in Energy and Environmental Design) is a point-based system that addresses five categories of planning and action:

1. Sustainable Site Selection and Design
2. Water Efficiency
3. Energy & Atmosphere
4. Materials and Resources
5. Indoor Environmental Quality

The criteria defined in LEED provide a framework for planning, renovating and operating commercial buildings so as to minimize demands on and destruction of natural resources, while improving conditions within the built environment that affect the health and job performance of building occupants. These criteria have been researched by professionals in multiple building-related disciplines, and are regularly reviewed and updated. LEED has standardized and categorized complex, interconnected factors in a way that design, construction, regulatory and financial concerns can consider and incorporate in building plans, systematically and practically.

As with any standardized system of understanding that addresses broad subject matter and practices, the first step to promoting Green Building is education. While a rapidly increasing number of professionals in all building-related fields across the U.S. are studying and using LEED-defined principles and practices that reduce impacts of the built environment on the natural environment, many such professionals are not yet familiar or fluent with this kind of thinking. Workplace or community presentations that introduce LEED and the principles behind it are a positive, professional way to introduce government and business personnel and interested individuals to this innovative, practical approach to “greening” the built environment.

Resources

More information about Green Building can be found online at www.usgbc.org. The St. Louis Regional Chapter of the U.S. Green Building Council hosts monthly presentations on Green Building topics and practices, and can provide professional speakers and refer consultants working in a variety of building disciplines as a resource to communities and businesses throughout the region. The chapter’s coordinating center, Missouri Botanical Garden’s Gateway Center for Resource Efficiency, can be reached at 314-577-0220 or gateway.center@mobot.org.

Promote Green Building in City of Clayton Facilities

Action Plan

Awareness

- Standards and criteria have been clearly defined, at a national level with local adoption, for “greening” of the built environment.
- Education is an important tool for understanding, disseminating and popularizing Green Building principles and practices
- Government can lead the way with these kinds of innovations, problem-solving and setting an example and standard for businesses and individuals.

Issues

- A new system of understanding demands focused, positive introduction in order to be considered
- Building codes are challenging to change
- Innovations must demonstrate their practicality and cost-benefits in order to be accepted
- Green Building considerations should be addressed and incorporated into projects at the earliest planning stages, and monitored during design, construction and building occupancy
- Many professional disciplines are involved in the building industry, and they work in complex interrelationships, so education must be broad-based and flexible

Research – To Be Done

- Who, if anyone, in the City of Clayton is familiar with Green Building? What have their experiences been? **City staff in the planning, and public works departments have been educated on green building and LEED. The goal of this education is to facilitate incorporation of best practices in both city operations, as well as development proposals for private development. An ordinance was passed on September 26, 2006, which requires all new city building be constructed at the silver level of certification. For private development projects, the PUD ordinance was updated to include LEED certification be considered as a public benefit. DeMun Point project is the first such project to include LEED certification, Brown Shoe and Centene will soon follow.**
- Who might become a “champion” of Green Building within city staffing? **Department heads in public works and planning are actively promoting green practices on all active development projects and incorporating these principles in public works associated projects.**
- To what upcoming city projects might Green Building principles and practices might be applied? **There are two upcoming projects that will include green building principles. The new police building is being planned at a silver certification. The feasibility study was prepared and sites identified, however a set location has not been chosen and funding for the project not defined. The second project is a roofing project for the maintenance building at 8300 Shaw Park Drive. The city has hired a consultant through its’ on-call services contract to perform a feasibility study of a vegetated roof. Following the feasibility study, a set direction for a 2010 project including a solid estimate of cost will be programmed.**
- What resources are available in the metro area, for staff training and for providing Green Building services? **The city has hired an engineer that is a LEED certified professional. This individual is in public works. While staff in public works and planning are expected to understand and promote green building, staff expects to use consultants for the expertise in LEED details.**

Players

- City of Clayton Planning & Development personnel
- St. Louis Regional Chapter –U.S. Green Building Council
- Consultants and other building-related service providers working with City of Clayton
- City of Clayton Chamber of Commerce

Solutions

- ❑ Educate city staff and interested area business personnel about Green Building – **Complete, ongoing training is required.**
- ❑ Identify examples of Green Building for visits and/or referencing. – **Locations have been identified in the region and soon to be in place in the City of Clayton.**
- ❑ Identify city staff member(s) who are logical choices for membership in St. Louis regional chapter of Green Building Council
- ❑ Identify city project potentials where Green Building might be implemented – **Every project that is proposed will consider green building in some way shape or form, even if they do not take the form of a LEED certified project.**

Actions

- ❑ Sponsor presentation(s) about Green Building for city staff
- ❑ Get a city staff member involved in the St. Louis Regional Chapter –USGBC
- ❑ Promote implementation of Green Building measures in city projects

Assessment

- ❑ Number of city staff and others who participate in seminars, trainings or project
- ❑ Nature of project undertaken

Evaluation

- ❑ Green Building principles incorporated into City of Clayton projects - **The new police building is being planned at a silver certification. The feasibility study was prepared and sites identified, however a set location has not been chosen and funding for the project not defined. The second project is a roofing project for the maintenance building at 8300 Shaw Park Drive. The city has hired a consultant through its' on-call services contract to perform a feasibility study of a vegetated roof. Following the feasibility study, a set direction for a 2010 project including a solid estimate of cost will be programmed.**
- ❑ City staff member(s) who become LEED accredited – **Steve Meyer (PW Civil Engineer)**
- ❑ City building projects that seek and obtain LEED certification – **See above**

Promoting “Green” City Events

Background Information

Public events by nature include crowds of people congregating in or passing through a defined site for short periods of time, usually consuming refreshments that are served using portable, single-use containers and utensils, and frequently perusing or collecting paper or goods that are often left behind as trash or litter. Major environmental concerns posed by public events focus around volumes of waste and transportation, parking and traffic issues that are typically generated by the creation of the kind of highly concentrated temporary environment characteristic of festivals, concerts, theatrical or sporting events and fairs.

Research conducted for the Clayton EEAC has found that organizers of major events held in the City of Clayton - such as the Clayton Jazz Festival, Clayton Art Fair and Taste of Clayton – have worked hard to address waste-related issues and reduce waste generated by their events. To some extent traffic-related issues have also been addressed, since these events typically take place outside commuter-intensive working hours when parking facilities are available; however, it is always beneficial to link promotion of transportation alternatives (biking, walking, carpooling and use of public transportation) with the promotion and popularity associated with high-profile events like those established in Clayton.

Notable existing practices designed to minimize environmental impacts of Clayton’s public events, and the problem-solving processes that produced them, can serve as models for other organizations and events seeking to come into Clayton, as well as events taking place around the St. Louis region. Event coordinator Cynthia Prost has worked hard to implement and maintain resource conservation practices, and is more than happy to discuss new options and issues. In a research interview for development of this plan, she said, “If it’s important to the City of Clayton, it’s important to us.”

Anticipating the potential for new events and the value of citizen and city government support in maintaining the high standard of environmental protection set by events held in Clayton currently, this component of the EEAC Action Plan should focus around three objectives:

1. Promoting existing “Green” event features, including
 - a. Leadership demonstrated by these practices in conjunction with Clayton events
 - b. Public awareness of environmental services offered, such as recycling or shuttles
 - c. Effective use of environmental services during events
2. Supporting sustained practice of and helping to problem-solve improvements to environmental protection measures, when service options or event staff change
3. Networking with other environmentally progressive events to improve or maximize “green” event practices, by sharing informational and expert personnel resources, equipment, access to services, etc.

Resources

Executive Director, Saint Louis Art Fair/Saint Louis Jazz Festival
314-863-0278

Judy Kekich
City of Clayton Community Outreach Coordinator
314-290-8473 – jakekich@ci.clayton.mo.us

Regional Calendar publications: Post “Get Out,” RFT Calendar, etc.

Promoting “Green” City Events

Action Plan

Awareness

- St. Louis Art Fair/Clayton Jazz Festival put City of Clayton in the limelight bringing in a substantial number of outsiders into the City.
- Opportunity to demonstrate Clayton’s leadership in environmental issues.

Issues

- What type of waste is generated at each festival? (souvenirs, food, printed materials)
- How is waste managed?
- What efforts have already been made to reduce waste/increase recycling?
- Do posters, program booklets, etc. utilize recycled paper?
- What are the T-shirts and other souvenir items made of?
- How is traffic managed, and how might transportation impacts be reduced?
- What other areas of the festivals have environmental impact?

Players

- Director of the Festivals
- Clayton Chamber of Commerce
- Judy Kekich, City of Clayton Communications and coordinator of “Taste of Clayton”
- City officials involved with the Festivals
- Festival vendors, artists, other participants

Research

- Art Fair and Jazz Festival are their own 501C3
- Had an environmental committee four years ago.
- Did away with plastic table coverings, only use cloth at the festivals
- Don’t use Styrofoam or paper cups, all drinks served in reusable souvenir plastic cups
- Used to pay to have aluminum cans recycled but now all beverages come in plastic
- Plastic bottles are collected and given to Midwest Waste, Clayton’s recycling hauler
- All cardboard is broken down
- Wine bottles are collected by the vendors
- Used to get power from street lights; now they use generators

Solutions

- Continue research by meeting with the Executive Director of Cultural Festivals
- Attend Jazz Festival to observe and develop ideas for Art Fair (in September)
- Meet with Judy Kekich to discuss opportunities at Taste of Clayton
- Promote successful environmental practices ongoing at Festivals
- Assess and address traffic-related issues, shuttle options, etc.

Action

- April – Meet with Cynthia Prost, learn what successes can be promoted during the Jazz Festival.
- June – Attend Jazz Festival to observe and develop ideas for fall Art Fair promotions
- July/August - Meet with Cynthia Prost about successes to be promoted during Art Fair
- September – Promote “green” practices implemented during Art Fair

Assessment

- Range of “green” practices is sustained or increased – **In the last three years at the major events, awards were given to restaurants for their recycling and environmental promotion, however, following a year of very poor effort in this area, awards were discontinued. Recycling containers were provided to the city for use at all Clayton events by Anheiser-Busch Recycling Corporation. The containers are used at the Jazz Festival, Taste of Clayton, Art Fair, and**

Parties in the Park. Information booths are also expected in future events for promoting city green practices and challenges.

- Types of support (e.g. recognition, volunteer participation) for “green” practices increase – **In 2007 at the Art Fair, public works had green shirts made that had EEAC on the back. Volunteers walked around the Art Fair grounds promoting recycling. This is expected to continue in the coming years. Newspapers in the area did provide recognition of recycling efforts at the Art Fair.**

Evaluation

- Number and value of media pieces promoting “green” practices in Clayton events
- Data on recycling collection, waste reduction, traffic patterns shows “green” increases
- Other events around region revise event practices to include “green” measures

Promoting Multi-Family Recycling

Background Information

Issues involved in recycling collection from multi-family dwellings differ from those involved with single-family service, and they are usually more challenging to address. Issues include:

- Multi-family residents move frequently, necessitating frequent expenditure of time and money to replace recycling bins and reiterate educational messages about recycling services and effective recycling practice.
- Space is often limited inside and around the outside of multi-family buildings, making it difficult to accommodate convenient location of recycling and trash collection containers; this is especially problematic in high-rise buildings.
- Building managers are often burdened by costs associated with allocating custodial services for recycling as well as trash removal – although the periodic nature of handling sorted recyclables (for example, weekly removal from an apartment or trash room on an apartment building floor) of co-mingled rinsed containers and small quantities of bagged waste paper) compared to more frequent disposal of kitchen or restroom waste probably equals or reduces custodial handling of daily trash outputs without recycling.
- Recycling services are infrequently viewed as an amenity among building services, although they certainly can be promoted as such.
- Outdoor recycling receptacles are often located alongside trash dumpsters, where passers-by, neighboring businesses and negligent residents tend to dump trash in with recycling, which contaminates the recycled materials, often turning a whole container of recyclables into trash; this sometimes results in fines and other problems for recycling haulers, affecting costs and quality of recycling collection service.
- Upper-story residents of multi-family buildings often feel inconvenienced by having to carry trash and recyclables out of their apartments – even though they are carrying out the same amount of material – which tends to adversely affect recycling participation.

Resources

Tax revenues from residents of the City of Clayton pay for recycling collection services for residents of both single-family and multi-family dwellings. A key resource available to address this issue is the recycling collection service already contracted by the City of Clayton. On the other hand, obstacles impeding effective recycling practice in multi-family buildings and neighborhoods call for substantial educational, motivational and problem-solving resources, which the EEAC can help provide.

Clayton's recycling collection contractor, Midwest Waste, can provide data to Public Works Director David Christensen on amounts of recyclables collected, but will only do so upon persistent request from city officials. One to three months of this data, broken out into single-family and multi-family participation, is essential to provide a baseline over which recycling collection increases can be measured.

Communities throughout the region may have suggestions and resources that can be replicated in Clayton. The St. Louis-Jefferson Solid Waste Management District is an excellent contact for this information, at 314-645-6753. Recycling officials in Madison County, Illinois – where residential recycling is strongly implemented and supported – can offer additional information and help; Recycling Coordinator Denise McClearey can be reached at 618-692-7040 ext. 4666 or dmmcclearey@co.madison.il.us.

Grants to support educational outreach to increase multi-family recycling participation may be sought from:

- The St. Louis –Jefferson Solid Waste Management District; grant guidelines from this agency are usually issued in the fall, with proposals due in December; call 645-6753 to request guidelines.
- St. Louis County Department of Health; applicants are encouraged to discuss proposal plans with DOH personnel before applying, and applications are accepted (QUARTERLY?)

Promoting Multi-Family Recycling

Action Plan

Awareness

- Taxes already pay for recycling services for both single-family and multi-family residents, but multi-family building dwellers make only minimal use of this paid service
- Fifty percent of Clayton residents live in multi-family housing
- Each multi-family building unit receives bin, is eligible for recycling collection

Issues

- Limited space outside buildings for recycling collection, in addition to trash containers
- Outdoor recycling containers prone to contamination from trash dumping
- Higher resident mobility necessitates frequent, multi-faceted recycling user education
- Bins disappear when residents move – need for regular bin supply for new residents
- Contaminated materials are collected by haulers, but may not be getting recycled

Research

- Get Allied Waste perspective on quality, problems associated w/ multi-family recycling
- Clarify hauler strategies for multi-family collection on recycling days to select pilot focus area
- Define locations, types of multi-family housing throughout Clayton
- Conduct visual survey of multi-family neighborhoods to identify pilot neighborhood(s) for recycling collection promotion efforts
- Clarify status of previously-awarded recycling promotion grant from St. Louis County DOH
- Identify models in other municipalities, in apartment complexes and high-rise buildings that have successfully implemented multi-family recycling

Players

- Clayton Public Works
- Clayton Planning & Development (occupancy permits)
- Midwest Waste
- Multi-family complex managers
- Multi-family residents
- St. Louis DOH (granting agency)
- St. Louis-Jefferson Solid Waste Mgmt. District (granting agency)

Solutions

- Work with Midwest Waste to compile baseline data on Clayton recycling participation – **In 2005, the St. Louis-Jefferson Solid Waste Collection District provided a grant to the city to survey usage as a baseline for enhancements to the recycling program. Clayton had one of the highest participation percentages of all St. Louis municipalities. Allied Waste provides a monthly report on tonnage of all waste collected, including recycling collected. This data collection enabled city staff to report on increases in recycling attributed to the new recycling bins secured by a grant and issued to all residential units in the summer of 2007.**
- Educate residents about service availability, correct participation – **The 2005 recycling grant provided an educational opportunity for the public on single stream recycling. The city used the grant to make refrigerator magnets that detail the materials that can be recycled. Information is also provided in the “CityViews” publication, the web, and other printed materials provided to the public.**

Action

- Obtain and promote replicable models from other communities, building complexes – **Most multi-family units were required to recycle, however, there were three high rise buildings that were excluded. In June of 2007, all exclusions to recycling were eliminated by the action of the**

Board of Alderman, now all residential units are included in the recycling program. Allied Waste works with the multi-family buildings to provide collection (included in the city contract) and containers (added cost in most cases).

- ❑ **Collect baseline data from recycling hauler, track progress over baseline - In 2005, the St. Louis-Jefferson Solid Waste Collection District provided a grant to the city to survey usage as a baseline for enhancements to the recycling program. Clayton had one of the highest participation percentages of all St. Louis municipalities. Allied Waste provides a monthly report on tonnage of all waste collected, including recycling collected.**
- ❑ **Focus multi-family recycling promotion in pilot multi-family neighborhood(s)**
- ❑ **Obtain grant support for educational and promotional efforts - The city used the grant to make refrigerator magnets that detail the materials that can be recycled. Information is also provided in the “CityViews” publication, the web, and other printed materials provided to the public.**

Assessment

- ❑ **Survey of multi-family residents**
- ❑ **Securing collection data from Allied Waste**

Evaluation

- ❑ **Increased participation – Significant increase was realized when new recycling containers were distributed.**
- ❑ **Decreased contamination – Continues to be a concern**
- ❑ **Continued accumulation of recycling collection data to document progress - Data collection is continuing on a monthly basis.**

Establish Commercial Recycling Programs

Background Information

Issues that affect recycling differ significantly between the commercial and residential sectors of a community, though outcomes of community environmental health and leadership will repay a civic investment in making recycling work for both sectors. Commercial recycling issues include:

- Municipal government often supports residential recycling as well as trash collection, but seldom pays for or provides either of these services for businesses or institutions (such as schools, hospitals, libraries).
- Commercial trash and recycling collection rates are higher than residential rates, and business owners balk at paying for services they often mistakenly see as duplicate collections.
- Although effective recycling can reduce trash volume and costs associated with trash collection, offsetting additional charges for recycling pickup, business owners often need outside prompting and education in order to implement these kinds of calculations.
- An aggregate customer base is needed to secure best rates for collection services, but individual businesses seldom band together to create “collection districts” that might make best use of collection service contracts (as is the case with municipal contracts for residential collection) and limited space for dumpsters or recycling bins in alleys.
- Incentives such as discounts on business licenses, reductions in municipal business tax rates, or “green practice” recognition campaigns could be offered by municipal governments to prompt recycling implementation and effective practice in business districts.

Businesses in Clayton fall into four categories, each of which has specific recycling and waste management needs. These categories and related specifics are:

1. Information-based businesses (corporate headquarters, professional offices, etc.)
 - Recyclable paper comprises 50-60% of waste stream
 - Several recycling collection businesses in St. the Louis region service this type of customer, providing cost-competitive service options
 - Shredding may also be required in concert with recycling collection where confidentiality is a business concern (e.g. medical offices, financial businesses)
 - Some cardboard and beverage container recycling may be needed or desired, but these will be minor components of the waste stream in this sector
 - Multiple businesses of this type in a given building might contract with the same service provider, potentially through building ownership, in order to make best use of collection services and increase customer “buying power”
2. Food and beverage service businesses (restaurants, bars, cafés, fast food servers)
 - Cardboard and recyclable containers dominate waste stream
 - Space for collecting containers is often limited behind bars, in waiting stations but models exist in area restaurants for management of container collection
 - Time (for separating recyclable containers from trash and breaking down boxes) is frequently a major obstacle to recycling in food-service businesses
 - Trash collection costs may be substantially reduced by diverting recyclables from trash in this type of business; effective implementation of recycling can offset added costs of recycling collection and potentially also labor investment needed to make recycling work, but owner/employee education is essential for the success of this cost/benefit formula
 - Limited exterior space for cardboard and container recycling collection in addition to trash dumpster often poses a major obstacle to restaurant recycling

- Creation of a cooperative “recycling district” where food and beverage establishments are clustered may help address dumpster space and collection cost issues.
- This type of business may be especially receptive to “green recognition” incentive programs
- Few recycling collection service options are available for this type of business at this time in the St. Louis metro area, limiting geographic range of collection and cost-comparisons for customers

3. Hotels

- Food service establishment issues may apply in this category
- Paper-waste management issues will apply in this category to some extent (e.g. office waste paper, guest newspapers, paper waste from meeting facilities)
- Management may offer guests the option of reducing resource usage from laundry facilities with “green choice” cards in rooms (i.e. guests may elect to not to have used towels replaced and/or sheets changed when rooms are made up during multiple-night stays)
- Recycling bins for paper and beverage container collection should be placed prominently in lobby and meeting areas to encourage guest usage
- In-room recycling bins in addition to trash cans may be promoted as an amenity
- Few recycling collection service options are available for this type of business at this time in the St. Louis metro area, limiting geographic range of collection and cost-comparisons for customers

4. Retail Businesses

- Cardboard and possibly waste paper, including catalogs and junk mail, will be major components of store waste streams
- Diversion of these items may not reduce trash hauling costs sufficiently to offset addition of recycling collection charges to store operating expenses
- Clustering of retail businesses into a cooperative “recycling district” can provide a financial incentive to recycle by reducing dumpster/recycling bin space needs and increasing buying power for collection services
- This type of business may be especially receptive to “green recognition” incentive programs
- Employee turnover may necessitate well-organized, frequent internal education about recycling goals and practices; availability of free city-sponsored materials for this use may be a valuable incentive to recycle
- Few recycling collection service options are available for this type of business at this time in the St. Louis metro area, limiting geographic range of collection and cost-comparisons for customers

Establishing Commercial Recycling Programs

Action Plan

Awareness

- Clayton is a business center w/ minimal commercial sector recycling available, currently practiced
- Types and quantities of waste generated vary significantly between several types of businesses

Issues

- Space limitations
- Cost of additional collection service
- Educating property owners, business operators, employees
- Availability of collection services

Research

- Identify types, approximate number of businesses licensed to operate in City of Clayton,
- Identify types of waste generated by classifications of business
- Identify existing businesses that recycle, what works and doesn't work for them
- Identify potential haulers
- Identify potential incentives for commercial recycling

Players

- Chamber of Commerce
- Property owners
- Business owners
- Recycling champions within businesses
- Haulers
- Potential grant sources

Solutions

- Identify potential pilot participants

Action

- Survey to clarify issues, needs among commercial property owners, business operators – **A survey was developed and is ready for distribution to business owners.**
- Pilot commercial recycling collection – **While the city is not responsible for recycling or trash collection programs for businesses, an initiative is expected for the city to provide information and facilitate recycling services for businesses.**
- Promote successes, problem-solving discoveries (educating commercial sector) – **The city is still looking for a business champion in this area to promote and being a role model for others to follow.**

Assessment

- Periodic check-in with participants
- Data from haulers – **Allied Waste provided a list of businesses that contract for recycling. This number is very minimal.**

Evaluation

- Increased participation
- Amounts of recyclable material diverted
- Decreased commercial waste generation

Recycling and Waste Reduction Highlights

- Encourage participation in Existing Program- *Grant secured in 2005 for education program, refrigerator magnets mailed on April 11, 2006. A follow up survey was done that showed an increase in awareness. Website information is also provided to residents as well as mailings.*
- Increase Range of Recycling Options – *Allied Waste moved to single stream recycling in the City of Clayton which means virtually everything that can be recycled can be collected from one bin.*
- Work Towards Volume-based Refuse Collection – *The new recycling and reuse grant was executed to give all residents 32 gallon recycling bins in 2006. Limitations were not enacted to require a waste reduction through a limitation on trash containers so that the volume of recycling will go up and trash goes down.*
- Provide for Household Hazardous Waste Collection – *Education on Countywide events is provided to residents, however a Clayton event is not planned. Clayton does hold an electronic recycling event annually that began in 2005.*
- Regulate Refuse Collection to Minimize Vehicles
- Provide equal access to all residents – *The City has worked with Allied Waste to make sure all multifamily residential units are provided recycling options that suit their needs.*

Reduce Traffic Congestion

Background Information

More than 80,000 people commute into and out of Clayton on a daily basis, including the workforce in the extensive Clayton business districts, shoppers and restaurant and hotel customers, college and university personnel, and participants in St. Louis County government programs and services. Despite innovative, concerted efforts of City of Clayton staff to facilitate traffic flow, issues such as road congestion, parking needs, regional air quality and storm water management are aggravated by intensified traffic, particularly at peak times of morning and evening commuter travel.

Clayton can boast of significant innovations to reduce the impact of traffic on environmental quality:

- Systematic conversion of city vehicle fleet to alternative fuels, including current extensive use of biodiesel, planned construction and operation of biodiesel fueling station, planned purchase of electric/gasoline hybrid passenger cars during replacement of existing vehicles;
- Extensive synchronization of traffic signals, within Clayton boundaries and on adjacent roadways maintained by St. Louis County and neighboring municipalities, including investment in Intelligent Traffic System controls;
- Modeling of flex time allowances for employees in city offices, to reduce commuter density.

Leadership, problem-solving and innovation demonstrated by these measures merit extensive promotion, in order to prompt businesses in Clayton and other municipalities to implement traffic-related environmental protection measures appropriate to localized and regional needs.

Additional opportunities for education and innovation include:

- Promotion of regional car-pooling resources, such as those offered by Ride-Finders;
- Promotion and support of plans to integrate a shuttle serving the Clayton business districts with planned MetroLink service to the area
- Exploration of “greening” in parking and public gathering areas, such as replacing existing pavement with pervious paving materials that reduce storm water run-off

Reducing Traffic Congestion

Action Plan

Awareness

- Clayton's residential population swells by approximately 80,000 people daily, including employees of businesses, university students and staff, shoppers and customers of many hospitality businesses.
- When MetroLink opens service to Clayton, shuttle service (already under discussion in Clayton) operating in concert with light rail will be necessary to promote ridership into and through the city

Issues

- Traffic is most intensified during morning and evening commute periods.
- Traffic congestion adversely affects air quality, noise and light levels
- Surface parking demands adversely affect water quality by contributing to storm water run-off and management problems
- Parking demands may reduce availability of green space

Research

- What are peak traffic times?
- How much staggering of workday start/end times is needed to reduce commuter-peak congestion?
- What commuter alternatives are available?
- What is needed to support, increase and promote such alternatives?
- When will MetroLink service to Clayton commence?
- What are estimates of anticipated MetroLink ridership?
- What are grant options that could support shuttle service in concert with Metro service?

Players

- City of Clayton employees and management
- RideFinders
- Chamber of Commerce
- St. Louis County of MODot information sources

Solutions

- Work to fund, implement shuttle service coordinated with Metro light rail and bus service
- Flexible scheduling and workday start/end that allows workers to avoid peak commute times
- Car-pooling – **Promotion of “Ridefinders” in the City of Clayton.**
- Bicycles as transportation – **Bike parking, share the road signing, and bike lanes.**
- Mass-transit commuter options – **Metrolink, enhanced bus stops and bus service**

Actions

- Promote models of flexible scheduling through Clayton professional community – *During the I-64 project, flexible work schedules have offset the closure of I-64, west of I-170. This is a demand management tool that is promoted in all new, large scale developments. The goal is to spread out traffic in peak periods which are 8:00a to 9:00a in the morning, and 4:30p to 5:30p in the afternoon. Street and Parks Crews start at 7:00 am and finish at 3:00 PM, while office staff is present from 8:00 AM to 5:00 PM.*
- Promote usage of ride-sharing services available in metro area – *The city has promoted “Ridefinders” in the City of Clayton for employees.*
- Establish and maintain bicycle travel safety features in conjunction with vehicle traffic – *Last year the city completed a “Share the Road” signing project throughout the City of Clayton. Bike lanes, way finding signs, and “Sharrows” were added on city streets for a route called Bike St. Louis. Bike lane striping is planned for Wydown Boulevard in the summer of 2008. In addition, a bicycle plan is being developed in coordination with neighbor cities and Trailnet. Staff will seek to gain recognition as a Bike friendly Community by the League of American Bicyclists in 2009.*

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- Establish and promote use of shuttle connections from Clayton MetroLink stops to key points in business district – *The Clayton Shuttle idea was discussed in 2005 but has not seen the light of day since the Leadership Clayton group provided their report. The single largest roadblock is ongoing funding of a shuttle. The City provides discounted transit passes for employees and a public program called Perc at Work from Metro is available. Also, Washington University provides transit passes for student to help address parking concerns on campus.*
- Improve bus-travel features, such as scheduling, bus-stop shelters, etc. – *The 2009 CDBG funding project for \$23,000 in the City of Clayton will include enhancements to bus stop areas to provide pedestrian enhancements and accessibility improvements to bus stops.*
- Air Quality - *The City completed the ITS project in 2006 which provides improved efficiency of moving traffic that yields improved air quality. The city is also a steering committee member of the Gateway Green Light Program run out of the East-West Gateway Council of Governments. This group is charge with regional cooperation for the coordination of traffic signals between public entities and determining priority corridors for coordination projects.*

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Assessment

- Track application of flexible scheduling (number of workers using, times of day, etc.)
- Monitor traffic patterns into, through and out of City of Clayton
- Monitor usage of transportation alternatives (car-pooling, mass-transit, bikes, etc.)

Evaluation

- Track changes in travel time through City of Clayton, particularly at peak commute times
- Quantify participation in suggested actions within government, business sectors of Clayton
- Track improvements in air quality
- Track demand for parking

Promoting City of Clayton as a Model

Background Information

Praiseworthy models of environmental protection practices exist in Clayton's municipal offices residential sector and school district. The environmental benefits resulting from research and problemsolving invested in a variety of proactive measures in Clayton can be multiplied by promoting these processes to other municipalities and to businesses throughout the region.

Models include:

- Residential, government office and school district recycling and waste reduction
- The alternative fuels program
- Coordinated measures to physically reduce traffic congestion
- Preservation and development of green space
- "Green" practices within city-supported public events
- Current or future "green building" practices in city buildings and facilities
- Emphasis on electronic communication for city business

Campaigns to promote environmental practices and innovations must, however, be combined with periodic reviews of the practices to ensure that they remain effective and keep pace with changing needs of both users of these kinds of services and the urban environment itself. If something "green" is not working, this kind of review can identify needs for improvement internally, as well as modeling improvement options externally.

Promoting Our City as a Model

Action Plan

Awareness

- Clayton already demonstrates leadership in several areas of environmental protection and improvement, and city officials are willing to explore increasing these efforts.

Issues

- People are hesitant or unwilling to change practices - even those that are clearly detrimental to environmental, personal or economic health – unless they know something about how such practices have worked in comparable situations
- Problem-solving experience can be transferred to multiple situations
- Clayton actively seeks to increase its civic leadership in an environmental context
- Professional communications resources may be needed to implement this project

Research

- What are preferences for environmental action among city staff, in residential and business sectors?
Environmental considerations have been institutionalized in all activities.
- What are venues that can be used to promote Clayton's environmental leadership? *The Clayton Green page on the web is the primary venue for information to residents.*
- Who has the skills and time to implement these kinds of promotional efforts?
- What avenues for feedback and exchange of information are available to Clayton?
- What recipients might benefit most from Clayton's experiences?
- What recipients might be most receptive to learning from Clayton's experiences?

Players

- City of Clayton citizens and Staff
- Chamber of Commerce
- St. Louis County Municipal League
- Other local government entities in the St. Louis region
- Clayton P.R. firms
- Local university and college marketing and communications programs

Solutions

- Formalize structure(s) for surveying city staff, resident, business environmental priorities
- Identify potential venues and audiences for promotional communication
- Identify communications personnel resources, including city staff, professionals willing to do *pro bono* work for City of Clayton, college and university students and faculty supervisors
- Define a schedule for promotional communications, perhaps seasonally-based

Actions

- Periodically survey staff, residential, business constituencies to determine environmental priorities
- Define and disseminate information about Clayton's environmental practices – *Green Page on the website was developed.*
- Set up a system for feedback from information recipients – *The mayor, board members, and staff are links from the public to city actions.*
- Establish mentoring relationships between City of Clayton departments and relevant partners in private sector and other local governments – **Clayton has defined itself as a leader on environmental initiative for public entities. Staff shares information regularly on actions and initiatives.**
- Promote alternative fuels program – *Staff has been using bio diesel for city vehicles and has a total of eight hybrid electric vehicles in the fleet. Three vehicles are purchased Ford Escapes and the other five are leased Toyota Prius's.*
- Promote use of Green Roofs to redo heat islands – *A program needs development to offer incentives for private companies to install green roofs.*

- ❑ Promote use of Bioswales to address stormwater runoff – *The City has initiated the use of these LID features in Urban Design Districts and the City will use these on City projects. LID alternatives will also be included in the Citywide Stormwater study.*
- ❑ Promote better use of lighting to prevent pollution and inefficient use – *Staff is investigating light pollution ordinances for consideration.*
- ❑ Securing alternative Energy Sources – *The EEAC approved the purchase of Renewable Energy Certificates (REC) for wind power from the Pure Power program of Ameren UE. The credits will go to offset 10% of energy used for City buildings. A challenge event will occur new Earth Day to try and achieve a 3% overall participation of residents and businesses to gain recognition as an EPA Green Power Community.*

Assessment

- ❑ Track placement, frequency, value, audiences for promotional communications
- ❑ Track progress of environmental protection measures undertaken via mentoring relationships

Evaluation

- ❑ Track recognition directed toward City of Clayton (awards, circulation of promotional info)
- ❑ Track quantifiable improvements as a result of partners' implementation of Clayton models (e.g., amounts of waste reduced at regional public events, resource conservation and cost-saving data resulting from transportation-related improvements)
- ❑ Survey perceptions about Clayton's environmental practices in residential and commercial sectors of the community

Institutionalizing and Promoting “Green” Purchasing

Background Information

The purchasing power of government is a significant driver of markets for recycled-content, energy-efficient and environmentally innovative products and services. And while municipal government cannot mandate purchasing decisions for residents or business constituents, it can model and justify “green” purchasing options that others may choose to make as well.

Keys to “green” purchasing include:

- Incorporating environmental considerations into purchasing specifications (e.g. paper products must have minimum recycled-content or appliance models must be Energy Star™ certified);
- Offsetting higher costs of resource-efficient purchases with savings resulting from usage (i.e. lower utility costs payback investments in super-efficient appliances or lighting equipment);
- Acknowledgement by civic officials that government has a responsibility for local environmental stewardship and investment in community environmental health, therefore “green” purchasing is the right thing to do, even when costs of “green” choices are higher.

Institutionalizing and Promoting Green Purchasing

Action Plan

Awareness

- Government purchases and contracts are key to the market success of “green” products
- Government can set a purchasing example for individuals and businesses in the private sector

Issues

- “Green” products are often more expensive than virgin-material counterparts, although they bring various values to their purchasing choice that may offset higher costs.
- Government purchasing guidelines often mandate “least-cost” rather than product qualities
- Government responsibility for spending of public funds overlaps with government responsibility for environmental protection associated with citizen quality of life.
- Some purchasing decisions lose their “green power” when items are ready to be disposed of

Research

- What kinds of “green” options are available to address city purchasing demands? *In most cases there are environmentally friendly alternatives in purchasing.*
- What kinds of cost-benefit information is available about relevant “green” products? *When an item is considered for use, a green alternative is investigated to see what cost is attached to the alternative, if it is minor, these are implemented. If the benefit outweighs the cost, it is implemented.*
- Where are the champions of “green” products and practices in city government, and what are their relationships with purchasing personnel? **Department heads, namely the Parks and Public Works Directors are the champions of purchasing green products in the city.**
- What product sources are available to provide “green” options? *The city has been utilizing the US Communities and state purchasing networks, which are the lowest possible prices for products. Most vendors offer green options if asked.*
- What resources are available to verify “green” product performance and claims?
- How green are relevant products at end-of-life, as well as during usage?

Players

- City of Clayton purchasing personnel
- Elected officials (Mayor, City Council)
- Various product vendors
- Accreditation or certifying entities (e.g. Green Cross, Green Spec Directory, Forest Stewardship Council)

Solutions

- Identify green purchasing outlets and relevant products
- Identify purchasing guidelines that do or can address “green” product choices for the city

Actions

- Modify city purchasing guidelines to include specifications, preferences for “green” products. - **Green purchasing policy was added to the purchase policy and is included in the Operation and Maintenance Program manual.**
- Work with city staff and elected officials to institutionalize “green” product preferences – **All cleaning supplies have been converted to green products and preference is give to these products in all purchasing, within prudent financial choices. Preference is give to hybrid vehicles and alternative fuel technologies.**

Assessment

- Track kinds and quantities of “green” products purchased
- Track cost variances and other benefits, drawbacks of “green” products choices

Evaluation

- “Green” content, performance, etc. is specified in bids, RFQ’s issued by City of Clayton
- “Green” products can be documented as purchasing choices

Seasonal “Green” Information Updates

Background Information

Educating residents and businesses located in the City of Clayton about environmental protection options may be done on a seasonal update basis. Regular environmental-themed communications in residential and commercial newsletters, via list serves or website postings, or on the city’s public-access cable channel can effectively keep “green” principals and practices in people’s minds, while conveying important periodic updates on environmental services and practices available in Clayton.

Organizing this kind of information seasonally is a good way to organize information so that it is delivered at times when people are most likely to practice the suggestions, and so that people are not overwhelmed with these kinds of reminders. Seasonal division of topics might include:

Spring

- Resources and references for non-toxic alternatives to commercial cleaning products
- Composting and yard-waste management tips
- Household hazardous waste collection information

Summer

- Explanations of air quality alert criteria
- Tips to reduce ozone production relative to driving, lawn mowing, Bar-B-Quing, etc.
- Tips to reduce health risks from sun exposure
- Tips to promote responsible pet care in hot weather

Autumn

- Information on composting leaves and other yard waste
- Home weatherization information
- Tips to reduce electrical usage by switching to compact fluorescent lighting

Winter

- Ideas for holiday waste reduction
- Bird-feeding information
- Weather-appropriate dressing ideas for cold-weather safety and reducing heating needs

Seasonal “Green” Information Updates

Action Plan

Awareness

- Time and other resources limit the amount of educational outreach a citizen committee can contribute to, however
- Periodic, updated education is essential for citizens to effectively practice environmental protection measures in their community
- People are awash in information, so focus and direction are needed to get attention.

Issues

- People can only take in so much advice, direction and related information
- Structuring environmental education informational seasonally helps promote manageable assimilation and implementation of such resources
- Frequent refreshment is necessary for people to attend to and absorb information

Research

- What vehicles are available to communicate environmental resource information to citizens?
- What vehicles are available to communicate environmental resource information to business?
- What resources are available to provide verifiable information worthy of sharing?
- What person-power is available for this communication?

Players

- City of Clayton communications personnel
- General public media
- Community environmental experts – individuals and organizations

Solutions

- Define and research environmental tips and resources relevant to Clayton population
- Identify communications personnel resources
- Identify publication and dissemination resources
- Set up a feedback system to foster comments on environmental updates and their application

Actions

- Implement a seasonal update public-education campaign

Assessment

- Track how many and what kinds of vehicles which are distributing the information
- Track information recipients (# households mailed to, # of viewers during broadcast times)

Evaluation

- Track responses from information recipients
- Survey recipients to learn what they considered and implemented