

2001 Report: January - June
Conservation Advisory Commission
City of Newark, Delaware

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Overview

This report summarizes the activities of the City of Newark's Conservation Advisory Commission (CAC) during the first half of the 2001 calendar year. Some of these overlap with 2000 activities as described in last year's report, and some materials are repeated to provide a "stand-alone" document. The direction of anticipated CAC work in the second half of 2001 is also described.

Background

The CAC was created in November, 1977 by Ordinance 77-56,

"to advise in the development, management, and protection of its natural resources with appropriate consideration of Newark's human and economic resources. The Commission shall concern itself with conservation in its broadest sense and may, among its activities:

(a) Recommend to City Council a program for ecologically suitable utilization of all wet lands, valley streams, and flood plains and other land areas, the condition and use of which will affect the environmental quality of life in the City of Newark;

(b) Shall file an annual report;

(c) Maintain informal liaison with the Planning Commission, the Parks and Recreation Department, the City Manager, and the City Council, and cooperate with other public and private bodies organized for similar purposes:

(d) In addition to the foregoing, carry out any other duties, tasks, or responsibilities, consistent with the objectives of this Commission assigned to it by resolution of City Council."

Ordinance 77-56 gave examples of programs that may be considered by the Commission, such as street tree replacement; improved recycling; beautification plans for volunteer groups; guidelines for multiple use of open space and public areas; community gardens; energy conservation; and review of Zoning Code amendments to encourage conservation, and also stated that "the above list shall not, however, limit the program which the Commission may undertake or be requested to undertake."

The CAC has 9 members; the roster for 2000 provided as **Appendix A**.

The CAC's year 2000 activities are organized in this report into three groups:

-activities in response to City Council Requests

-activities initiated by the CAC

-activities conducted on a regular basis

2000 CAC Activities in Response to City Council Requests

No requests were received for specific CAC study during this period.

2000 CAC Activities Initiated by CAC

Riparian Corridors: The CAC spent considerable time on this area in the first half of 2001 due to concerns about erosion and flooding problems in the Christina Creek. Lack of proper attention to the riparian corridor along this creek, particularly in the Christianstead and West Branch developments, was believed to be an important contribution to these problems. The

residential developments of Christianstead and West Branch included deed restrictions, put in place in 1985, intended to protect the 100-year flood plain areas included in these residential properties. In many cases, these restriction had not been heeded, impairing access to the trail along the stream and razing natural vegetation.

In early 2001, the CAC obtained further information from the City regarding attempted enforcement. The CAC in its January meeting reviewed at length the success of efforts to date by the City and volunteer conservation organizations to educate and encourage the creek side home owners to manage their property as mandated in their deeds. With one-third to two-fifths of the citizens still in non-compliance, the CAC between the January and March meetings drafted, edited, and passed a Memorandum to the Mayor and Council urging its taking an aggressive role in enforcing the home owners' deed restrictions that require preservation of the riparian corridor. At the June 12 meeting of the CAC, Mayor Godwin reviewed with the committee a responsible three-stage process over the summer of monthly notifications of non-compliance and an ensuing daily fine for non-compliance upon reception a third notice. Much constructive discussion on the issue occurred in the Committee's month-to-month deliberations and is recorded in the CAC minutes over the past year. Over the coming year the City and CAC will continue to monitor conditions to assure that the progress made in riparian restoration in this area has reached the point of established practice.

Adopt-A-Block/Stream/Park: The CAC has been considering an "Adopt-A-Block" program similar to the "Adopt-A-Highway" programs common in many counties and states. This would be a re-initiation of a similar program that the CAC conducted from 1991 to 1993. Information was gathered in 2000 from other area programs, and streams and parks were added as locations that could be adopted.

In March 2001 CAC member O'Neill, after consultation with the City Solicitor for legal purposes, presented a packet of materials which includes conditions of participation, safety considerations, an application form, and release forms for adult and child participants. These materials are provided with this report as **Appendix B**. Volunteers were being sought to initiate the program.

Recycling: Curbside recycling continued as a focus of the CAC in the first half of 2001. CAC member Drake provided extensive review and survey of recycling possibilities, including

- the curbside recycling program in nearby Carney's Point Township, New Jersey and its costs;
- the recycling program in Penns Grove, New Jersey and its operation;
- a Materials Recovery Facility in Camden, New Jersey
- BFI, a waste hauler that picks up recyclables using mobile bins fitted to the regular refuse collection trucks and hauls them to other facilities for recycling;

Activities were further catalyzed by Governor Carper's creation of a Citizens' Work Group on Recycling, and the release of its report in March 2000, entitled "A Course of Action to Increase Recycling in the State of Delaware." The CAC reviewed this report and also reviewed the findings of Newark's 1997 curbside recycling study.

Members of the CAC decided to pursue the possibility of obtaining \$15,000 in funds from the DNREC Recycling Assistance Grant Program. Possibilities were discussed with a member of the DNREC program to assure that an appropriate set of objectives would be proposed, and the

assistance of the City was requested (as a CAC resolution passed unanimously at its May 15 meeting). A draft proposal was submitted to Council on June 1 and a brief presentation was made at the Council meeting of June 11th, with the specific request of providing \$2500 in matching time or resources from the City if the grant were funded. This was to meet half of a DNREC requirement of 20% funding match, with the CAC also planning to contribute at least \$2500 in matching time on the project if funded. The total of \$5000 would meet the 20% requirement. Dr. Dentel also indicated before Council that the proposal would go through UD which would commit a further 20% matching time through the Center for Energy and Environmental Policy and the Department of Civil and Environmental Engineering. Council approved the CAC request.

The proposal, titled "Beyond the Igloos: Strategies for Increased Recycling in Newark, Delaware" was finalized and submitted to DNREC June 25th. **Appendix C** presents the full proposal. The main objectives were

- \$ An updating of the economic factors considered in Newark's 1997 report;
- \$ Broad assessment of alternative strategies for curbside or other collection methods using curbside recycling, but modified from the 1997 plan in order to improve economic feasibility;
- \$ Collection of recyclables at specific facilities and/or events by the City, and the possible impact on overall recyclable collection that such steps might have;
- \$ Comparison to other municipalities in Delaware, and in other states, that face similar situations with regard to subsidized drop-off programs, and what they have done;
- \$ The potential for long-term increases in recycling through any other means available;
- \$ An overall projection of the costs and benefits of selected strategies that appear to be feasible for Newark for increased recycling;
- \$ A plan and schedule by which Newark would implement any recommended steps for increased recycling.

(Note: as of August 1, 2001, DNREC had determined not to fund this proposal, but encouraged its resubmission later in 2001 when more funding was to become available).

Littering in Newark: The issue of littering and the lack of any anti-littering program or signage in Newark had been a concern in 1999. Dr. Dentel engaged Ms. Rachel Dencker, an undergraduate student at UD, to study this problem as an independent study project, and she presented a report to the CAC in April 2001, entitled "A Survey of Litter Control Strategies for Newark."

Ms. Dencker's presentation included some photographs exemplifying littered areas in Newark. She pointed out that litter is an economic burden due to cleanup costs both locally and nationwide. In this respect a seemingly expensive anti-litter campaign can be economically justified. Such a campaign should include voluntary cleanups, in-school educational programs, paid advertising, and media coverage and should be maintained on a long-term basis to be effective. A litter hotline may be effective but generally in a broader (state-wide) campaign. For college communities, alcohol usage is correlated to littering.

Ms. Dencker recommended a budget of \$100,000 per year for an anti-littering campaign in Newark. Much of this budget would fund an anti-litter coordinator position for the city. Although she pointed out that this would amount to only \$3 per person per year, it appeared that a less expensive strategy should be sought by the CAC if it is to be approved by the city.

Alternatives to Salt for Road De-Icing: CAC members had expressed concerns in late 2000 about the amount of salt applied to city streets and possible environmental effects. CAC member Griffin presented a report on this issue at the January 2001 CAC meeting.

Although sodium chloride, the predominant ingredient in common road salt, does have environmental effects, more environmentally friendly alternatives such as calcium chloride and calcium magnesium acetate are between five and twenty times as expensive. Sand is not an alternative because DELDOT reports salt to decrease accidents by 80 percent over sand. Inquiry of DNREC personnel indicated that the state is strongly committed to the use of road salt due to safety and liability concerns. For these reasons, this issue was not revisited further in subsequent meetings.

Energy Conservation and Alternative Energy Sources for Newark: The CAC heard a report from Mr. Tom Lampros, a member of the city's Planning Commissions and expert on solar energy, concerning potential uses of solar energy in Newark. His presentation dealt with two areas: how to encourage the use of solar construction in Newark, and how to enable city residents to purchase electricity specifically generated from renewable resources such as solar and wind power ("green power"). These are important issues from environmental and conservation standpoints, such as the effects of fossil fuel burning on global warming.

Solar energy could be used in households if the city provided economic incentives, such as providing the capital for solar panels on housetops and leasing them to the residents. This is practiced in some areas such as Sacramento, California. In Newark, however, there is currently a major impediment: the city is a member of DEMEC (Delaware Municipal Electric Coop) with a contract that prohibits it from generating any of its own electricity. This will need to be renegotiated in 2003. Another step toward future use of solar energy in residences is to have developers align new streets in an east-west direction so one roof side faces south, which is most suitable for solar collectors. City facilities could also be equipped with solar panels.

Green power is a different strategy. Renewable energy may be converted to electricity at other locations (for example, areas such as the Pennsylvania mountain ridges or in southern Delaware near the shore) and then (at least indirectly) transmitted to this location. The consumer may pay a higher price for this "green electricity," which is arranged in advance by checking off for a certain percentage on each power bill. Mr. Lampros indicated that the additional cost could be one cent per kilowatt hour: for a house using 1000 kw-hr per month, this would mean an increase of \$10 per month if purchasing 100% "green electricity."

The CAC noted that impediments to these proposals must be addressed if progress is to be made. The city's revenue includes a significant portion from the sale of electricity, so energy conservation is viewed as antithetical to city finances. In a sense, the city is an electrical utility company. However, city involvement in solar collector installation could also be profitable if on a leasing basis. The sale of "green energy" could also be profitable since this would presumably be at a higher rate than the purchase price. Unfortunately, DEMEC has recently decided to acquire significant gas turbine facilities for generating electricity, committing Delaware municipalities to continued use of fossil fuels.

2000 CAC Activities Conducted on a Regular Basis

Review of Planning Department Administrative Reports: This regular activity of the CAC is for the purpose of addressing potential environmental effects of development within city limits as early in the planning process as possible. In 1999 the Planning Department instituted the routine mailing of its weekly reports to CAC members for this purpose. CAC members have attended Planning Commission meetings and spoken to environmental questions as a result.

In the first six months of 2001, the following developmental concerns were addressed, many resulting from Planning department information:

- Pomeroy corridor bike path route and its pavement characteristics.
- 924 Barksdale Road, to be used temporarily for the Newark Charter School: amount of pavement to be used on the property and whether it would be removed if/when the school relocates. The CAC passed a motion 7-1 to the effect:

MOTION BY MR. DENTEL, SECONDED BY DR. BENNETT: THAT THE CAC NOTE ITS CONCERN ABOUT THE TOTAL AREA TO BE PAVED FOR THE TEMPORARY USAGE OF THE IRA PROPERTY FOR A CHARTER SCHOOL. IT IS THE CAC'S UNDERSTANDING THAT THIS USE OF THE PROPERTY IS TEMPORARY, AND RECOMMENDS THAT ADVANCE ARRANGEMENTS BE MADE FOR THE REMOVAL OF THE PAVEMENT WHEN THE CHARTER SCHOOL CHOOSES TO RELOCATE.

- Ongoing plans for the City Reservoir.

Community Day: The CAC made initial plans to focus on recycling for Community Day in September 2001. Further details will be reported in the CAC's next report.

Promoting Improvement through the Better Newark Award: Since 1986, the "Better Newark Award" has been awarded quarterly for environmental improvements as well as noteworthy aesthetic improvements. This award includes a proclamation signed by the Mayor and a publicized photo of the property. Nominations are reviewed regularly by the CAC, and winning properties were selected. The winning Newark properties during the first six months of 2001 were:

- 13 N. Wynwyd Drive, Victor and Elizabeth Kaliakin
- 124 Old Oak Drive, Michael and Andrea Boulden

Community Cleanup: The CAC was active in assisting with the city's 2001 Community Cleanup on March 24th. CAC members met with Parks and Recreation to organize the event, including identification of areas to be assigned, sources of supplemental funding, and community groups to be contacted for volunteers. Each CAC member was assigned a cleanup group on the day of the activity, and advised on duties, area boundaries, and safety considerations (since many areas were along busy thoroughfares). Participation was good, with 160 volunteers participating – the largest group ever. Ten truckloads of trash were collected from roadways, parks, and common areas. Continuation of the event for 2002 is anticipated.

CAC Initiatives for the remainder of 2001

The CAC looks forward to continuing in 2001 with the following priorities:

1. Respond to directives and requests from the Mayor, City Council, and others within the City government.
2. Beautification: continue administration of the Better Newark Award. Continue with the Community Cleanup program, with improvements as indicated after assessment of the 2000 effort.
3. Conservation: continue to encourage appropriate treatment of riparian corridors in Newark.
4. Recycling: resubmit DNREC grant application after further discussions, and maintain ongoing study of recycling enhancements for the City.

APPENDIX A: CONSERVATION ADVISORY COMMISSION - 2001 MEMBERSHIP

(Three-Year Term)

Steven K. Dentel, Chairperson
69 Kells Avenue
Newark, DE 19711
Appointment by Mayor
Term Expired: March 13, 2000
Reappointed to March 13, 2003
Phone: 737-3939 (H) 831-8120 (B) 831-3640 (FAX)
Steve Dentel <dentel@udel.edu>

Bruce Diehl, Vice-Chairperson
205 Meriden Drive
Newark, DE 19711
Appointment for District 5
Term Expired: March 13, 2000
Reappointed to March 13, 2003
Phone: 368-0790 (H) 773-2841 (B)
Bruce Diehl <Thedeal246@aol.com>

Alan Hitchner
905 Pheasant Run
Newark, DE 19711
Appointment for District 1
Term Expires: March 13, 2001
Phone: 292-3658 (H)
Alan Hitchner <ahitchne@csc.com>

Mike Harmer
36 Hawthorne Avenue
Newark, DE 19711
Appointment for District 2
366-0877 (H) 395-5845 (B)
mtharmer@co.new-castle.de.us

Robert B. Bennett
117 Dallas Avenue
Newark, DE 19711
Appointment for District 3
Appointed May 8, 2000
Term Expires: March 13, 2003
Phone: 731-4524 (H) 831-3653 (B)
Robert Bennett <Rbennett@udel.edu>

Kurt R. Philipp
37 Kells Avenue
Newark, DE 19711
Appointment for District 4
Term Expires: March 13, 2002
Phone: 738-7535 (B)
Kurt Philipp <KRPhilipp@aol.com>

Peter Griffin
329 Paper Mill Road
Newark, DE 19711
Appointment for District 6
Appointed February 28, 2000
Term expires: March 13, 2001
Phone: 733-7486 (H) 831-0892 (B)
Peter Griffin <griffin@ce.udel.edu>

Arthur O'Neill
211 Sypherd Drive
Newark, DE 19711
Appointment by Mayor
Term Expires: March 13, 2001
Phone: 731-7580 (H) 366-5387 (B)
831-4934 (FAX)
<arthur.j.oneill@usa.dupont.com>

Peter Drake
12 Plymouth Drive
Newark, DE 19711
Appointed August 14, 2000
Term Expires: March 13, 2002
Appointment by Mayor
731-0319 (H) 998-7500 (B)
pdrake@chhetrick.com

APPENDIX B: MATERIALS FOR CITY OF NEWARK ADOPT-A-STREET PROGRAM

CITY OF NEWARK

ADOPT A BLOCK ADOPT A PARK ADOPT A STREAM

PROPOSAL

The Conservation Advisory Commission (CAC) would initiate a program that facilitates volunteers (individuals or groups) to help clean selected areas within the limits of the City of Newark. Initially, the program would concentrate its efforts in areas that require the most attention (e.g., Main St) but should eventually spread to a wider area. The program would also coordinate its efforts with any city services that have similar agenda.

CONCERNS:

- o Overview - members of the CAC would initiate and maintain the program. No city officials would be required to "run this program."
- o Cost - the individuals performing the clean-ups would be volunteers so the only costs associated with this program would be the supplies needed by the volunteers for the clean-ups (e.g., plastic bags, gloves, etc.) and any marketing tools (e.g., signs, mailers, etc.) deemed appropriate
- o Liability - all volunteers would be required to sign waivers modeled after the Adopt-A-Highway program sponsored by the Delaware Dept of Transportation

BENEFIT

The streets, parks, and streams within the City of Newark would have a mechanism in place to help the existing city services keep these areas clean for all of the community. In addition, volunteerism by the community would instill a sense of pride and ownership in these areas.

CITY OF NEWARK
ADOPT-A-STREET PROGRAM

RELEASE - CHILDREN

This form must be completed and returned prior to participation in the Adopt-A-Street program.

Date: _____

Individual/Organization: _____

I/we have received the roadside safety regulations as a prerequisite to participating in the City of Newark *Adopt-A-Street* program.

I/we do hereby release and discharge the City of Newark, the Conservation Advisory Commission (CAC), and their officers, agents, and employees from all claims, demands, and causes of action of every kind whatsoever for any damages and/or injuries that may result from my participation in the *Adopt-A-Street* program.

I/we further agree to hold harmless the City of Newark and the CAC agents and employees, from liability for any damages or injuries resulting from any acts or failure to act on my part during my participation in said voluntary activities during the *Adopt-A-Street* program.

Name of Child(ren): _____

Parent's Name: _____

Parent's Signature: _____

Parent's Address: _____

Please note, a parent's permission is required for all participants under the age of 18.
Children younger than 12 may not participate.

CITY OF NEWARK
ADOPT-A-STREET PROGRAM

APPLICATION

Date: _____

I/we request permission to Adopt-A-Street in the City of Newark in the following order of preference:

Location 1: _____

Location 2: _____

Location 3: _____

I/we agree that work will be performed under and in accordance with the City of Newark *Adopt-A-Street* conditions attached to this application and incorporated herein by reference.

I/we further agree that upon approval, each participating member of our organization, for themselves, shall at all times indemnify and save harmless the City of Newark and the Conservation Advisory Commission (CAC) employees, agents, and officers from responsibility, damage, or liability arising from the exercise of the privileges granted in such applications.

I/we further agree that this application may be terminated by the City of Newark or CAC at any time either determines that, in their opinion, the applicant(s) does not comply with the conditions of this program or at any time the applicant(s)' work under this program is unsafe or causes a conflict with traffic or the public interest. The City of Newark and CAC reserve the right to revise or discontinue this program at any time.

PLEASE PRINT

Name: _____ Signature: _____

Address: _____

Phone: (H) _____ (W) _____

Name of Individual/Group
to Appear on Official Correspondence: _____

FOR OFFICE USE ONLY

The undersigned hereby accepts the above organization's agreement for the adoption of :

CAC Representative: _____ Date: _____

CITY OF NEWARK
ADOPT-A-STREET PROGRAM

SAFETY

The City of Newark Adopt-A-Street program promotes responsible behavior. All participants are asked to keep this goal in mind when conducting cleanups. Program requirements state that the following regulations must be shared with all members. Please review and discuss this information often.

DON'T: Pick up litter in the street or close to the edge of the street when motor vehicles are present.

DON'T: Pick up litter in areas where construction or maintenance is being performed.

DON'T: Do anything that will distract passing drivers or other volunteers.

DON'T: Work during peak travel times.

DON'T: Participate in litter pickups while under the influence of drugs and/or alcohol.

DON'T: Allow children under the age of 12 to participate.

DON'T: Pick up materials that appear to be hazardous. Contact the City of Newark Refuse Department in this event or if you have any questions.

DO: Stay on the right-of-way, facing traffic, with your team.

DO: Work in small groups (no larger than 3 per team), keeping children with adults at all times.

DO: Wear bright-colored clothing, gloves, and hard-soled shoes.

DO: Work only during daylight hours and in fair weather.

DO: Use common sense at all times.

CITY OF NEWARK
ADOPT-A-STREET PROGRAM

CONDITIONS

The following are the conditions required for all individuals and groups participating in the City of Newark *Adopt-A-Street* program:

- (1) Litter pickup will be done on both sides of the designate street(s) at least once per month. Litter pickup should be confined to those areas between the sidewalk(s) and the street. Litter pickup in the street and on private property is prohibited.
- (2) Eligible sections of streets will be selected by an appointed representative of the City of Newark Conservation Advisory Commission (CAC).
- (3) Any local community organization, such as civic, social, or school groups, is eligible to participate, as are individuals 18 years or older. Group members less than 18 years old must be supervised by adults 18 years or older. Individuals under 12 years of age will not be permitted to participate. There will be one adult per 8 underage members (12-18 years of age). All participants must have approved applications on file with the CAC appointed representative.
- (4) Participants will be required to adopt for a one-year period of time.
- (5) The CAC will supply participants with safety information (enclosed), plastic trash bags, and gloves. Delivery of bags and gloves to participants will be coordinated with the appointed representative of the CAC.
- (6) Participants will only dispose of litter in designated trash dumpsters. The location of these dumpsters will be communicated by the appointed representative of the CAC.
- (7) Cleanups during bad weather or when visibility is reduced (e.g., night) or restricted is prohibited. It is suggested that cleanups be made on weekends when traffic flow is reduced.
- (8) Individuals and groups are responsible for notifying the City of Newark CAC of any changes in the status of their application. It is essential that individuals/groups notify the CAC appointed representative of any changes in contact information.
- (9) Individuals and groups are required to notify the CAC appointed representative by phone following the completion of each cleanup.
- (10) The City of Newark and the CAC reserve the right to revise these conditions as needed and reserve the right to deny applications from unqualified individuals and organizations.

CITY OF NEWARK
ADOPT-A-STREET PROGRAM

APPLICATION

Date: _____

I/we request permission to Adopt-A-Street in the City of Newark in the following order of preference:

Location 1: _____

Location 2: _____

Location 3: _____

I/we agree that work will be performed under and in accordance with the City of Newark *Adopt-A-Street* conditions attached to this application and incorporated herein by reference.

I/we further agree that upon approval, each participating member of our organization, for themselves, shall at all times indemnify and save harmless the City of Newark and the Conservation Advisory Commission (CAC) employees, agents, and officers from responsibility, damage, or liability arising from the exercise of the privileges granted in such applications.

I/we further agree that this application may be terminated by the City of Newark or CAC at any time either determines that, in their opinion, the applicant(s) does not comply with the conditions of this program or at any time the applicant(s)' work under this program is unsafe or causes a conflict with traffic or the public interest. The City of Newark and CAC reserve the right to revise or discontinue this program at any time.

PLEASE PRINT

Name: _____ Signature: _____

Address: _____

Phone: (H) _____ (W) _____

Name of Individual/Group
to Appear on Official Correspondence: _____

FOR OFFICE USE ONLY

The undersigned hereby accepts the above organization's agreement for the adoption of :

CAC Representative: _____ Date: _____

APPENDIX C: PROPOSAL SUBMITTED TO DNREC RECYCLING ASSISTANCE GRANT PROGRAM JUNE 25, 2001.

**Beyond the Igloos:
Strategies for Increased Recycling in Newark, Delaware**

Project Description

Introduction

The Governor of Delaware's Executive Order Number Eighty-Two provides a goal of thirty percent diversion for recyclables from Delaware's solid waste stream. This is an ambitious objective and will require significant changes in recycling practices.

Newark, Delaware has a historically high rate of diversion relative to much of the state, and has recently undertaken a major study of curbside recycling, including a pilot collection program. The City's findings on curbside recycling indicated that, even in this environmentally oriented community, a straightforward source separation program was not supportable. Thus, although we share the Governor's vision and intent, it is not obvious what specific strategies might be implemented that would allow the 30% diversion rate to be approached in Newark. Successful measures must be not only logistically feasible, but also economical and acceptable to the public. Reconciling Newark's past experiences and future ambitions in recycling will require measures that are both significant and innovative. Thus, rather than advancing a specific recycling program at this point, we are requesting funds from the DNREC Recycling Assistance Grant Program to assess modifications and alternatives to curbside recycling that will work for Newark.

Newark's 1997 Curbside Recycling Report

In 1997, the City of Newark performed a detailed study of one means of increasing recycling: curbside collection of recyclable materials, known as "source separation." This study included a pilot program and subsequent evaluation and economic analysis. The "bottom line" finding was negative:

"one thing is for sure, the public opinion and economics for Newark do not support the implementation of a program at this time."

How could the possibilities for recycling seem so dim in Newark, which might be assumed—as an educated community—to be environmentally conscientious? Ironically, the 1997 Curbside Recycling Report makes it clear: the presence DSWA's drop-off (or "igloo") program for recycling has a governing influence on the potential for other recycling programs to succeed. Though the subsidized igloos encourage recycling from those who are willing to transport recyclables to collection stations, they create a situation in which the economics for other programs are difficult to justify. From the report:

"What does this mean to Newark? It means we do not experience an immediate savings in tipping fees in that the majority of the material collected would be a transfer of materials from the Recycle Delaware [igloo] program to ours. And the current Newark participation rate of that program of 65% and the current citywide diversion rate, very close to the national goal of 25%, give a good indication that substantial increases in recyclable quantities should not be expected."

Beyond the Igloos: What Can Be Done?

If the State of Delaware desires a 30% recycling rate, but the subsidized igloo program limits

even a progressive community like Newark to 25%, what can be done? This question is important beyond Newark, because DSWA's Recycle Delaware program is state-wide. Thus any locality in Delaware that seeks a recycling program that is more participative than the igloos must also compare its economics to those of igloo use alone.

Economic, political, and policy realities support several assumptions that should be made in seeking recycling strategies to get to 30% recycling:

- 1) The igloo program will be continued and subsidized.
- 2) Municipalities like Newark are either unwilling or unable to provide recycling at a significant economic loss or risk.
- 3) Solutions that aim solely to increase igloo usage by short-term publicity programs cannot assure a long-term improvement (this assumption is also provided as a stipulation for the Recycling Assistance Grants).

Given these conditions, two possibilities can be considered:

1. Modifications to the Curbside Recycling program as designed for the pilot study might alter the economics to make the program more feasible, either in the manner of collection or in the use of other receiving sites for the recyclable materials. One example is the use of collection trucks that include both side-bins for recyclables and larger hopper for unsorted wastes. Another is the use of an MRF (materials recovery facility), meaning that the materials do not need to be separated by hand anymore. These are available options as of 2001; others may also arise.
2. Other collections of wastes beyond the normal context of household collection are another possibility. As one example, portable recycling containers could be used for events such as Community Days and Newark Night. Offices of the City, and our extensive system of City Parks, currently have minimal recycling, and the waste collection containers at these locations could provide for separate disposal of recyclable materials.

Of course there may be other solutions that have been arrived at elsewhere, and these need to be considered as well. The range of opportunities may include innovations that have been developed in other states, for example, so the study will include a survey of recycling practices in comparable locations with existing, subsidized drop-off facilities. An additional opportunity is teaming with other institutions, such as University of Delaware (which conducts some recycling independent of City and State programs), with local businesses, and/or with nearby municipalities to accomplish more favorable scales of recycling

Consequently, it is proposed to use a \$10,000 grant from DNREC's Recycling Assistance Grant Program to study the above options, and possibly additional ones as well. In other words, we would like to go "beyond the igloos."

Details of Project

The study is to be performed as a coordinated effort of concerned parties, including the following:

- University of Delaware (UD) personnel in the Department of Civil and Environmental Engineering and in the Center for Energy and Environmental Policy, including a graduate

- student devoted to this project full-time for six months,
- City of Newark personnel, including the Public Works Department, Parks and recreation Department, and Planning Department, and
- The members of Newark's Conservation Advisory Commission (CAC), an appointed board of volunteers chartered by the City "to advise in the development, management, and protection of its natural resources with appropriate consideration of Newark's human and economic resources."

The requested funds are to be contracted through the University of Delaware and will primarily cover the graduate student's stipend for 6 months, with some additional expenses (mailings, printing supplies, etc.). Specific amounts are given in the Estimated Project Budget included with this application. The faculty would be Dr. Steven Dentel of the Department of Civil and Environmental Engineering and Dr. John Byrne of UD's Center for Energy & Environmental Policy. Dr. Dentel is the Chair of the Conservation Advisory Commission at this time. No funds are requested to support the two faculty, whose time is included as a matching contribution to this grant.

The study will be organized through periodic meetings of UD, City, and CAC personnel, to coordinate the direction and efforts of the study. These will also include verbal progress reports as the study progresses. Summaries of the project status will be provided to DNREC at the 3, 6, and 9-month points.

Specific aspects of the study are to include:

- § An updating of the economic factors considered in the 1997 report;
- § Broad assessment of alternative strategies for curbside or other collection methods using curbside recycling, but modified from the 1997 plan in order to improve economic feasibility (e.g. use of a materials handling facility in New Jersey, or combined trips to both the intermediate processing facility (IPF) and disposal of conventional solid waste);
- § Collection of recyclables at specific facilities and/or events by the City, and the possible impact on overall recyclable collection that such steps might have;
- § Comparison to other municipalities in Delaware, and in other states, that face similar situations with regard to subsidized drop-off programs, and what they have done;
- § The potential for long-term increases in recycling through any other means available;
- § An overall projection of the costs and benefits of selected strategies that appear to be feasible for Newark for increased recycling;
- § A plan and schedule by which Newark would implement any recommended steps for increased recycling.

A report to DNREC and to the City Council of Newark will be the project's main product, deliverable 8/31/2002 or before. It will identify potential strategies for increasing recycling to 30% in Newark and an assessment of the feasibility of each such measure.

As the project's education and outreach component, copies of the project report will be disseminated in hard copy to interested parties, such as other Delaware municipalities. The findings will also be posted on the internet as a web page.

If particular recycling methods appear promising, it is plausible that a second year of funding

will be requested for purposes of assisting in implementation. To allow this option, the study's preliminary findings will be provided in the 9-month project summary by 5/31/2002.

Tentative Project Schedule

9/01-11/01	Meetings of project participants, initial screening of possible strategies
12/01-2/02	Study of alternative recycling strategies
3/02-5/02	Analysis selected strategies, draft assessment
6/02-8/02	Completion and dissemination of final report

Matching Funds

As a commitment of the City and the CAC, the Mayor and City Council of Newark voted unanimously on June 11, 2001 to match the proposed \$10,000 funding from DNREC with \$2500 in services and other expenditures, to be provided equally by the CAC and City personnel. The University of Delaware is providing an additional \$5000 in matching funds, provided as time allocation by the two faculty participants. The overall matching is thus 75% of the funding requested from DNREC.

Benefits

Although the DSWA Recycle Delaware program is a positive factor in Delaware's recycling, it also has the negative result of stifling additional efforts, by making it difficult to justify their costs. Yet Delaware is committed to a recycling level of 30%. This proposal is intended to identify any modifications, niches, or other strategies that will bring Newark's participation up to 30%. The results of this project will thus reconcile the recycling ambitions of both Newark and the State of Delaware with the limitations imposed by economic and political factors, and even by the successful DSWA drop-off recycling program.

We are hoping that this study will identify one, or perhaps several, recycling strategies that can be turned into viable programs in Newark and beyond. Our target is to find the means of attaining the Delaware objective of 30% diversion. We would then anticipate the submission of a follow-up request to DNREC (in June 2002) to implement or test the identified recycling program(s). Assuming we are successful, the environmental benefits will ultimately accrue not only to Newark but to other Delaware municipalities that currently see no means of getting beyond the igloos and up to the 30% recycling participation.

Itemized Breakdown of Estimated Project Budget

Expenses	State Funds Requested	Applicant Match In-Kind	Details
Supplies and Expenses	\$282 Includes 10% (\$26) overhead		Primarily computer supplies (e.g. disks, software).
Travel	\$1100 10% overhead (\$100) included.		Registration and travel for a relevant conference.
Personnel	\$8068 graduate student stipend for 6 months. Includes a 10% overhead costs.	\$9763. Includes \$5000 faculty time plus 27.5% fringe benefit cost, plus 10% overhead.	
Personnel		\$2750. Includes \$1250 Newark City, \$1250 Newark CAC, \$250 overhead.	
Report preparation	\$550 copying, binding, etc. Includes 10% (\$26) overhead		
Totals	\$10,000	\$19,763	

Budget is to be handled by Center for Energy and Environmental Policy of the University of Delaware. A 10% overhead is applicable for all expenses indicated.

Key Personnel Involved in the Proposed Project

Person	Selected credentials	Responsibility
University of Delaware:		
Dr. Steven K. Dentel	UD faculty and Newark resident since 1985. Ph.D. and Del. Registered P.E.	Proposal preparation, coordination between CAC and UD personnel, draft revisions
Dr. John M. Byrne	Director, Center for Energy and Environmental Policy; Ph.D., UD 1980	Supervision of graduate student research, draft revisions
Graduate student	To be student in UD's Graduate School of Urban Affairs and Public Policy	Information survey, interviews, analyses, draft reports
Newark Conservation Advisory Commission (CAC)		
Steven K. Dentel Bruce Diehl Robert B. Bennett Peter Drake Peter Griffin Michael Harmer Alan Hitchner Arthur O'Neill Kurt R. Philipp	Charter provided by City Council. Each member appointed by Mayor or a Council member for 2-year term. CAC has actively dealt with a variety of environmental issues in Newark	Community Liaison, background information, review of draft report, outreach
Government of the City of Newark, Delaware		
Carl F. Luft	City Manager	Provide background and technical information, review of draft report
Roy H. Lopata	Director of Planning	
Richard M. Lapointe	Director of Public Works	
Charles R. Emerson	Director, Parks & Recreation	

APPENDIX D: A SURVEY OF LITTER CONTROL STRATEGIES FOR NEWARK, PRESENTED TO THE CAC BY UD STUDENT RACHEL DENCKER

Problem Statement

To research and develop a cost effective anti-litter campaign/strategy for the Newark community to enhance their community environment through an education and action plan.

Survey of Literature

Public awareness of environment problems has been growing since the 1970's. However, one of the still neglected and most obvious problems is litter. Studies find that cleaning public areas costs the American taxpayers over \$500 million each year. Yet, litter continues to be one of the nation's major environmental problems. Numerous studies and field tests have been activated to seek solutions for this wide spread contamination of our highways, communities, and forests.

The first of these studies tried to identify the most notorious polluter. Stuart N. Robinson found that young people, specifically males, aged 21-35 were the most likely to litter. Furthermore, this age group was three times more likely to litter than people over 50. It also found that local residents complied less to litter regulations than did non-residents. Other researchers focused on behavior modifying techniques to reduce litter. William C. Finnie observed that placing more litter receptacles in a clean area reduced litter by 56% while only 35% in a dirty area. He believes that a city can reduce its' litter problem by keeping its streets cleaner. Concluding, that clean areas are more likely to stay clean while dirty areas tend to get dirtier. John Cope, Kim Huffman, Linda Allred, and William Grossnickle designed behavioral strategies to reduce cigarette litter. They found that an increased number of ashtrays available resulted in a significant reduction in cigarette litter found on the ground. In addition, decorated ashtrays were utilized more often than ordinary ashtrays. Therefore, the more attractive and readily available trash receptacles are the more likely they will be employed.

Comprehensive statewide anti-litter campaigns have proven to be quite effective in reducing litter and saving tax dollars in state budgets. In 1996, Florida saved \$3,868,120 in litter pick-up expenditures. An anti-litter campaign brought more than 100,000 volunteers from more than 1000 communities to collect more than 6 million pounds of litter between March and April 2000. Florida is not alone in their successful reduction of litter and tax savings. The State of Texas has a very large anti-litter campaign (Don't Mess with Texas) that continues to work very well into its 15th year of operation. Texas has seen a 67% reduction in litter. Keep Texas Beautiful (KTB) won first place in a nationwide competition for the most effective statewide litter prevention and beautification program. Another important example is Oklahoma. Oklahoma achieved a 69% reduction in litter after only a two-year time implementing its anti-litter campaign. Unfortunately, funding was cut after three years and the litter rate climbed back to its original rate. Anti-litter campaigns have been proven to be effective but they take time and patience to implement.

Model Outline for Newark

The most effective and inexpensive way to moderate a litter problem is to develop an anti-litter campaign. Typically, campaigns are comprised of litter hotlines, voluntary cleanups, in-school education programs, paid advertising of anti-litter catchphrases, and media coverage of environmental events. Research has shown that the more extensive and encompassing the campaign, the

more efficient it becomes. In some communities, litter has been reduced by as much as 76%. However, campaigns must be implemented for numerous years in order to be effective. Numerous studies showed that once funding was cut, the communities returned to their previous states. Litter is a growing problem that is not going away and has are no quick and easy solutions.

The Newark community has basically two options for addressing its litter problem. The first option, which is the easiest, is to send out a request for proposals (RFP) from environmental consultants to design Newark's anti-litter campaign. A budget can be projected and a campaign, which best fits Newark will be designed. This option will be more expensive due to a consultant's markup fees.

The second more cost efficient option is to hire a Litter Coordinator who will be in charge of developing and supporting Newark's campaign. The Coordinator's most important job is to form a Focus/Vision group. This group would be comprised of citizens with a vested interest in the beautification and community improvement of Newark such as realtors, political leaders, school leaders, municipal department heads, local newspaper publisher, and community groups. This group will determine the direction and form the anti-litter campaign will take. Additionally, this group will draw support from the community and create coalitions for the campaign.

The next step is to develop a litter survey to hand out to the Newark community. Ask civic groups, local churches, and businesses to help distribute the survey. This survey will help determine the litter factors (composition, audience for media, public attitude, and deterrents) needed to design the most successful program possible.

Another very important litter deterrent is education and its ability to positively influence lifestyle choices. In-school programs should be developed or borrowed (several agencies have already developed wonderful curriculums). Curriculums should include all ages K-12 in conjunction with assembly programs, classroom activities, and teacher training. Examples of possible school project are organizing a Litter Patrol of the school grounds and classrooms and holding a Litter Art Show.

Media support is also a very important factor in designing a thriving anti-litter campaign. Advertisements target the primary littering group and make them aware of how much their litter costs them each year. Leaflets, workshops, and other anti-litter information provide citizens with information reinforcing the importance of not littering.

Making the community aware of its litter problem helps motivate citizens to do something about it. There are many different events that can be planned to help get the community involved in the fight against litter. For example, sponsoring a Contest for Cleanest Neighborhood helps bring fellow citizens together working for one goal, a cleaner and safer community. Seeing other residents volunteering their time to help improve the community is a helpful reminder that community pride is important.

The final element of an effective anti-litter campaign is a litter hotline. The hotline helps citizens voice their concerns regarding any community litter problem. Staff members give information to the citizen on the best way to handle the problem or make proper notifications to those parties involved. The hotline is an important source of information for citizens and helps eliminate the "middleman."

The general cost of a modest anti-litter campaign for the Newark community is about \$100,000.00 per year. That is about \$3 per resident. This program includes the hiring of the Litter Coordinator plus minimum support, media/educational material, cleanup materials (trash bags and gloves) and some community sponsored activities (workshops and incentives). This program would not include the litter hotline. Although very effective, the modest size of Newark does not necessitate it. In addition, it is possible to receive government funding for an innovative approach to litter prevention (First in Delaware). See the North American Commission for Environmental Compliance web page (www.cec.org) for more information or contact an environmental group for more information.

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