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Pathways to Sustainable Development Project

The Pathways to Sustainable Development Project (Pathways Project) identified and assessed barriers to sustainable development in the areas of energy, manufacturing and settlement. The Pathways Project explored instances where current public policies create unintended, negative effects for Minnesota's economy, environment or communities. Barriers identified include such things as information policy, public incentives and subsidies, state and federal regulation, publicly managed resources, coordination and performance measurement, market incentives. These broad policy findings were drawn from policy research developed in reports, briefing papers and mapping projects.

Briefing papers were prepared in several policy areas including energy, manufacturing, settlement, carbon taxes, and public incentives for businesses in Minnesota. Each briefing paper provides background on trends and issues in these areas as well as summaries of focus group comments on barriers to sustainable development. The briefing papers served as background to the selection of policy research reports.

Reports completed under the project include:

Brownfields: An Opportunity for Sustainable Development—analyzes the key costs and benefits of developing brownfields over greenfields using sustainable development as its framework. The analysis integrates economic, environmental and community concerns throughout and provides information on regulatory, technical and financial assistance and local government efforts in Minnesota. The report identifies opportunities for sustainable development including a proposed definition for brownfields, policy options to prevent brownfields in the future and improved mechanisms for bringing these sites back into productive use.

Fiscal Patterns and Population Trends—reviews the fiscal changes associated with population trends in Minnesota cities. The report also contains 17 case studies on how local communities are managing population change and maps of Minnesota's fiscal geography. The report found that population growth alone is not associated with broad improvements in the fiscal condition of cities between 1985 and 1994. Both declining and growing cities face similar challenges as they manage change in the size of their community.

Minnesota Policies Affecting Residential Development—examines key policies that shape how and where residential development occurs. The study includes several case studies and a discussion of full cost accounting as part of its application of sustainable development principles. The report offers policy options to encourage development that integrates economic, environmental and community goals.

Minnesota Directory of Sustainable Development

<http://www.mnplan.state.mn.us/SDI/index.html>

Minnesota's first publicly funded web site devoted to sustainable development includes information on programs, research and policy initiatives within Environmental Quality Board agencies. The information provided in the Directory creates a one stop shop for

Minnesota communities, businesses and citizens that want to learn more about sustainable development in Minnesota.

To request further information about the project or to obtain copies of the reports, contact Environmental Quality Board at Minnesota Planning, Sustainable Development Initiative, 658 Cedar Street, St. Paul, MN 55155, or call 612-296-3985, fax 612-296-3698, or visit our web site at <http://www.mnplan.state.mn.us/SDI/index.html>

Work Program Update: July, 1, 1997

LCMR Work Program 1995

I. Pathways to Sustainable Development - 5(I)

Program Manager: John R. Wells
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- A. **Legal Citation:** ML 95, Chp. 220, Sec. 19 Subd. 5(I)
Total biennial LCMR appropriation: \$200,000
Balance: \$ -0-

Appropriation Language: This appropriation is from the trust fund to the director of office of strategic and long range planning for the environmental quality board to evaluate government barriers to sustainable development in energy, manufacturing, and settlement and to recommend strategies to address priority barriers to sustainable development.

- B. **Status of Match Requirement:** N/A.
Match Required: \$N/A
Amount Committed to Date: \$N/A.
Match Spent to Date: \$N/A.

- II. **Project Summary:** Acting on recommendations of *Minnesota Sustainable Development Initiative*, *Pathways* evaluates and suggests ways to correct government barriers to sustainable development in energy, manufacturing and settlement.

Many of Minnesota's laws, regulations and administrative policies send unintentional economic signals that *encourage* environmentally unsustainable activities, while *discouraging* behavior the state would like to promote. By distorting, and often obscuring, the true social and environmental costs of these activities, such signals lead governments, businesses and citizens to make economically inefficient and environmentally harmful decisions. *Pathways* seeks to correct this by evaluating the laws, regulations and administrative policies identified as barriers to sustainable development by the *Minnesota Sustainable Development Initiative's* seven citizen teams, and recommending appropriate changes. Minnesota lacks comprehensive information about the distortions that government can cause, and which distortions cause the greatest harm. The project will identify impediments to an

environmentally sustainable economy and will help Minnesota determine policies that achieve environmental goals and improve private sector competitiveness.

The project will expand upon the *Minnesota Sustainable Development Initiative* and will use its findings and recommendations as a starting point for more in-depth study. For example, according to the Manufacturing Team: "*By reducing taxes on activities that should be encouraged, like capital investment, and by using the tax system to provide incentives for reducing resource use and pollution, the tax system could help Minnesota business improve efficiency and increase innovation.*" Changes in regulatory and administrative policy also are important to the energy and settlement sectors. Removing incentives for behavior that harms the environment should make the everyday actions of governments, businesses and citizens lead naturally to a healthier environment and economy.

III. January 1, 1997 Work Program Update Summary:

Project Staff:

- Jonathan Hubschman was hired October 1, 1995 at the Planner Principal level to staff the Pathways Project. (January 1, 1996 Update)
- Peter Butler was hired January 2, 1997 at the Planner Senior Level, M.A. HHH School of Public Affairs, University of Minnesota, (January 1, 1997 Update)
- Jay Stroebel was hired December 17, 1996 at the Research Analyst level, M.A., University of Minnesota, Applied Economics (January 1, 1997 Update)
- Suzanne Lamb, Policy Research Intern, Masters Candidate HHH School of Public Affairs* (July 1, 1996 Update)

The interns began work on May 28, 1996.

Round Table: (January 1, 1996 Update)

Steering Committee

(July 1, 1996 Update) Members of the Governor's Round Table on Sustainable Development were selected to serve on a Steering Committee to advise the Pathways Project. The Steering Committee held its first meeting in July of 1996.

(January 1, 1996 Update) Due to delays in appointment of Round Table members this aspect of the Pathways project was deferred until such time as the Round Table was convened. The Governor and the Environmental Quality Board appointed the 30-member Minnesota Round Table on Sustainable

Development in January 1996. The inaugural meeting of the Round Table took place on March 4 and 5 1996. The Round Table will be asked to select an advisory group for the Pathways Project by its April meeting. (July 1, 1996 Update) A Steering Committee of the Round Table met in July of 1996 to advise the Pathways Project. The Steering Committee meets periodically.

(January 1, 1996 Update) Pathways Workprogram items completed and/or initiated by July 1, 1996:

1. Review of reports and documents generated by the Minnesota Sustainable Development Initiative.
2. Summary of barriers identified by the Initiative's seven teams.
3. Barrier assessment proposals developed for discussion in focus groups and a committee of the Round Table.
4. Pathways projects in the areas of settlement and coordination of state agency efforts initiated. These projects are summarized as follows:

A. **Analysis of Population Growth and Changes in the Fiscal Profile of Minnesota Cities, Towns and Counties** (January 1, 1996 Update)

This analysis was undertaken to describe and analyze changes in population as they relate to changes in local government revenues. The intent of the study is both descriptive and analytic. The study addresses the question, *“Have local governments in areas experiencing population growth seen comparable growth in per capita revenues?”* The answer to this question has a number of implications and is potentially a complex task analytically.

This project was undertaken to advance the goals of the Pathways Project by:

- assessing fiscal impacts of growth throughout Minnesota
- developing a document to serve as a diagnostic tool for further Pathways studies in the area of settlement
- developing a data set which can be integrated with existing environmental, economic and social data bases

- creating needed information resources with which to assess barriers to sustainable development (All data developed will meet LCMR data requirements and will available to the public at the conclusion of this project.)
- assessing information resources for further econometric analyses of barriers to sustainable development
- addressing the general lack of information on population growth and its fiscal impacts in Minnesota.

Project Status: (July 1, 1996 Update)

- A draft report is in development. Staff are performing final proof read of data and analysis. A draft report will be available for review in January 1997. Final results for the report were delayed by revisions to be base data sets necessitated by data received from the State Auditor's Office.

B. **Minnesota Directory of Sustainable Development Efforts**(January 1, 1996 Update)

The primary purpose of this project is to provide information about public efforts in sustainable development to Minnesota citizens, businesses, institutions and units of government. The directory will provide a coordinated point of access to public programs and information about sustainable development. Such access will greatly enhance opportunities for public and private parties to contribute to the identification of barriers, respond to on-going Pathways Projects and otherwise engage the broadest possible discussion of barriers to sustainable development among Minnesota's citizens, communities, business and institutions. Response to this aspect of the project has been extremely positive to date.

A secondary goal of the project is to encourage a conversation among state agencies about opportunities to promote and coordinate sustainable development efforts in Minnesota.

Results:

The project will directly serve the Pathways project in a number of ways. By pulling together information on current efforts, Pathways will be able to identify barriers to sustainable development in Minnesota's tax, regulatory, and administrative framework. The project will also address the barriers of (1) poor information and (2) a lack of coordination at the state level by:

- communicating information to Minnesota's citizens, businesses, institutions and governments about current efforts
- creating a "one-stop shopping" opportunity for customers and audiences
- identifying, both for the general public and public agencies, current public efforts in sustainable development
- promoting greater public awareness of existing public efforts in sustainable development
- promoting coordination of state efforts in sustainable development
- developing an inventory of public sustainable development programs and projects.

Project Status: (July 1, 1996 Update)

The "Minnesota Directory of Sustainable Development Efforts" was completed. The web site was released in January 1997. A full paper copy of the Directory is included in this Work Program Update.

1. Engaging Citizens: Media Rare Program on Settlement and Energy. (July 1, 1996 Update)

The Pathways Project staff participated in the development of a televised program on the Pathways to Sustainable Development Project. The video focused on Settlement issues and was completed and aired in early 1996.

The participation of Pathways Project staff in the preparation of this video is part of an on-going effort to involve diverse citizen interests and to promote a broad based discussion of sustainable development in Minnesota.

2. Focus Groups(July 1, 1996 Update)

Potential Focus Group members were identified in the areas of Energy, Manufacturing and Settlement. Focus groups met periodically to advise the Pathways Project.

3. Description and Assessment of Barriers to Sustainable Development (July 1, 1996 Update)

Briefing papers in the areas of Energy and Manufacturing were completed for use in identifying and assessing barriers to sustainable development. These briefing papers support the Steering Committee and the Focus Groups in their discussion of barriers as well as later discussions of strategies to make Minnesota a model of sustainable development.

■ **Energy Briefing Paper**(July 1, 1996 Update)

This document provides background on energy in Minnesota. The briefing paper includes (1) a summary of the vision statement crafted by the Energy Team of the Sustainable Development Initiative, (2) general information pertaining to economic, environmental and community issues in energy, (3) an updated list of barriers to sustainable energy production and use, and (4) an initial set of project proposals to examine barriers to sustainable energy.

■ **Manufacturing Briefing Paper** (July 1, 1996 Update)

This briefing paper provides (1) a summary of the vision statement crafted by the Manufacturing Team of the Sustainable Development Initiative, (2) background information pertaining to economic, environmental and community issues, (3) an updated list of barriers to sustainable manufacturing, and (4) a initial set of project proposals to describe and analyze barriers to sustainable manufacturing. This information is provided to enhance our understanding of sustainable manufacturing as well as the barriers to reaching this goal.

Work program items, in addition to the preceding, were completed during the project: (January 1, 1997)

4. Pathways Project Proposals were finalized:*

■ **Carbon Tax** (January 1, 1997 Update)

Carbon taxes have been proposed in recent years as a means to more accurately price activities that create greenhouse gases. Carbon tax schemes range from "tax shifting" proposals to an added tax on polluting activities. While many of these proposals have been discussed in the local, national and international media very little information about local impacts is available. This study will apply a model developed at the University of Maryland, College Park, to assess the potential fiscal effects of a carbon tax in Minnesota. The report will provide background and analysis on how a carbon tax would affect Minnesota's economy, environment and communities.

■ **Accelerated Depreciation on Capital Equipment for Pollution Prevention and Energy Conservation** (January 1, 1997 Update)

Many of the existing tax incentives for capital investment were developed to encourage long term capital investments, but gave little consideration to pollution reduction concerns. Today, capital investment cycles are often shorter reflecting rapid technical advances and pollution prevention has become an explicit goal of state and federal policy. Yet our investment incentives do not reflect this evolution.

This study will examine the opportunity to better align Minnesota’s capital investment incentives with the conditions and priorities of today’s market place. Specifically, the project will investigate the feasibility of accelerated depreciation on capital equipment that reduces pollution and/or improves energy efficiency as a means to foster competitiveness and reward environmental performance.

■ **Cost Benefit Analysis of Energy Conservation Technology** (January 1, 1997 Update)

The future of energy policy, both in Minnesota and in the United States, is uncertain. Deregulation, changes in state policy and the emergence of new energy technologies make for a complex and rapidly changing policy environment. However, regardless of changes in the scarcity of fossil fuels, the eventual competitiveness of renewable energy resources, or impending deregulation, Minnesota can always rely on conservation measures as a means to make the best use of its energy resources. Conservation and efficiency have the ability to simultaneously improve our quality of life while reducing environmental damage. This project will examine the opportunity to implement additional energy conservation measures in Minnesota.

This project will develop an inventory of energy conservation technologies with an emphasis on residential energy conservation. Minnesota housing characteristics and market saturation rates for specific technologies will be compiled. This information will be used to develop a baseline assessment of the opportunity to implement energy conservation measures. A cost benefit analysis will be performed to determine whether or not additional public incentives to invest in energy conservation measures would yield a long term benefit for Minnesota. Where these technical improvements can be met in-state, a multiplier effect for jobs and income will be applied.

■ **Fiscal Impact Analysis of Residential Housing Choices** (January 1, 1997 Update)

There is widespread discussion of “sprawl” and “growth” issues but little agreement as to whether or not there is really a problem. Central to this discussion is the issue

of public subsidies to different groups and communities in Minnesota. This study will examine the full costs born by the public to support various residential housing choices.

The study will include case studies of residential housing options in urban, suburban and rural Minnesota. The Pathways Project will work with other state agencies to develop a representative set of case studies. The selection of case study homes will be guided by the goal of providing accurate, general information on the public role in supporting these settlement options. The study will also include, and quantify where possible, environmental and community costs incurred by housing choice.

■ **Analysis of Brownfield Policy and Future Issues for Contaminated Sites** (January 1, 1997 Update)

At last count, there are over 3,200 contaminated sites in Minnesota. These sites remain under-utilized as result of contamination, fear of liability on the part of developers and the availability of cheap “greenfields” throughout the state. This study will identify and analyze remaining barriers to brownfield redevelopment in Minnesota. The study will also examine policies that enable or allow the contamination and discard of valuable commercial/industrial sites.

(*Please see detail of project proposals in Attachment 1)

5. **Requests for proposals were drafted and released.*** (January 1, 1997 Update)

Two projects were deemed beyond the near term scope and resources of Pathways Project. These projects will be completed using a contract for services with an outside consultant or institution. The projects will be completed well in advance of the Pathways to Sustainable Development project. This will enable staff to develop policy recommendations to make Minnesota a model of sustainable development using the results of these contracts.

- **Accelerated Depreciation on Capital Equipment for Pollution Prevention and Energy Conservation**
- **Cost Benefit Analysis of Energy Conservation measures**
- **Barriers to the Growth of Sustainable Businesses in Minnesota**
- **Environmental Regulation for Sustainable Development**

(*The full text of the Requests for Proposals are included in Attachment 2)

6. **Settlement Briefing Paper** (Draft) (Attachment 3) (January 1, 1997 Update)

Settlement, the spatial distribution of households and businesses, is an extremely important and complex policy area. This briefing paper marshals some of the most important research and analysis available on the economic, environmental and community trends attending settlement. The briefing paper also provides new analyses of the hidden costs of current settlement policies in Minnesota. The briefing paper will be used to create a common basis in fact for settlement focus group participants as well. The briefing paper will also serve as the foundation for the Pathways Project's report on barriers and recommendations as to how to overcome these barriers in its final report to the LCMR.

7. **Compilation of Barriers for Energy Focus Group** (Attachment 4) (January 1, 1997 Update)

The Pathways Project's Energy Focus Group met in 1996. The focus group process yielded a rich compilation of barriers to sustainable development in the area of energy. The focus group consisted of citizens, business representatives, energy experts and representatives of EQB member agencies. The focus group process was an invaluable step both in the identification of barriers, discussions of individual policies and as a means to ensure public input in the Pathways Project's research process.

8. **Compilation of Barriers for Manufacturing Focus Group** (Attachment 4) (January 1, 1997 Update)

The Pathways Project's Manufacturing Focus Groups met in 1996. The focus group process yielded a rich compilation of barriers to sustainable development in the area of manufacturing policy. The focus groups were comprised of citizens, business representatives, manufacturing experts and representatives of EQB member agencies. The focus group process was an invaluable step both in the identification of barriers, discussions of individual policies and as a means to ensure public input in the Pathways Project's research implementation process.

■ **Carbon Tax Briefing Paper** (Attachment 5) (January 1, 1997 Update)

1996 saw a number of proposals for a carbon tax made both in Minnesota and in national and international fora. These proposals represent an important effort to ensure that market prices fully reflect the economic, environmental and social consequences of our choices.

However, very little is known about the impacts of a carbon tax on Minnesota's households or businesses. This briefing paper, prepared for the Governor's Round Table on Sustainable Development, provides basic information on current emissions, externality costs and policy questions that must be addressed in advance of implementing a carbon tax in Minnesota. The briefing paper represents the Pathways Project's first steps in its analysis of a carbon tax in Minnesota.

9. **Maps of Brownfield Sites in Minnesota** (Attachment 6) (January 1, 1997 Update)

Minnesota has made substantial efforts to reclaim contaminated sites. These sites represent an underutilized resource for Minnesota's communities. Equally important, the persistence of concerns about investing in brownfields, either as a result of regulatory inflexibility or concerns over long-term liability, provide a perverse incentive for businesses to develop greenfields often in areas that are not fully served by needed infrastructure.

The Pathways Project obtained a complete listing of contaminated sites through a data partnership with the MPCA. Both agencies benefited substantially from this exchange and with a savings to taxpayers. As a result, the Pathways Project developed the first set of comprehensive brownfield maps for Minnesota. These maps include:

- Brownfield locations by county
- Brownfield sites by proximity to sensitive ground water areas
- Locations of brownfields currently listed in the Voluntary Investigation and Clean-Up program of the MPCA
- Brownfield locations by Metro Counties and Greater Minnesota.

This effort represents an important first step in developing an inventory of Minnesota's brownfields and determining costs and priorities for their reuse. Sample maps are attached to this work program update. A full set is available upon request.

10. **Unique Data sets of Gross Sales by 2 digit SIC Codes for all Minnesota Counties** (Attachment 7) (January 1, 1997 Update)

The 2 digit Standard Industry Code (SIC) data sets provide an invaluable resource with which to perform basic economic base accounting analyses, including shift-share and location quotient analyses. The base data sets are compiled by the Department of Revenue but have not until recently been available in a form that is compatible with

common PC platforms. The Pathways Project has developed several years of these data thus allowing for trend and geographic analyses that were previously impossible. A sample of these data sets are attached.

The Pathways Project has developed several value-added, unique data sets pertaining to Minnesota's economy, environment and communities during the prosecution of its charge from the LCMR. All of these data sets will be submitted as part of the final LCMR report. In addition, selected data sets will be made publicly available on DataNet, the Land Management Information Center's data access services.

11. **Final Report of the Pathways to Sustainable Development Project** (January 1, 1997 Update)

(July 1, 1997 -- July 1, 1997 -- Final Update) The *Summary* includes a brief overview of the project research process and a key barriers to sustainable development in the areas of energy, manufacturing and settlement. The final report draws on more than a dozen documents completed under the Pathways Project. Thus, the report focuses on common, over-arching barriers found across several issue areas. The report also includes strategies and policy options to addresses these barriers.

12. **Fiscal Patterns and Population Trends** (January 1, 1997 Update)

(July 1, 1997 -- Final Update) *Fiscal Patterns and Population Trends* examines the fiscal experiences of larger, growing Minnesota cities between 1985 and 1994. The report finds that while some cities saw declines in per capita taxes during periods of growth, most cities saw increases in per capita taxes during periods when population increased more than 5 percent. The study examines trends in specific revenue and expenditure categories such as tax increment financing and property taxes. The report also includes 17 case studies documenting the experiences of cities in urban, suburban and rural Minnesota.

13. **Carbon Tax Issues: A briefing paper** (January 1, 1997 Update)

(July 1, 1997 -- Final Update) *Carbon Tax Issues* provides background information and brief analysis to support a discussion of emissions based or so-called "carbon"

tax proposals. The briefing paper provides information on emissions, externality values for criteria pollutants and identifies issues for further research and debate. This briefing paper was presented to the Governor's Round Table on Sustainable Development.

13. **Brownfields: An opportunity for sustainable development** (January 1, 1997 Update)

(July 1, 1997 -- Final Update) The *Brownfields* study describes current efforts to develop sites that have real or perceived environmental contamination. The study includes a description of current local, state and national efforts to address these sites; a cost benefit analysis comparing undeveloped sites to developing a brownfield site; and, finally, the report provides a description of barriers to sustainable development and a strategies to address these barriers.

14. **Minnesota Policies Affecting Residential Development** (January 1, 1997 Update)

(July 1, 1997 -- Final Update) This study examines polices that affect development choices in Minnesota communities. Five communities were selected for study of development policies including urban service provision, water and water services, local highway aids, capital finance of new school buildings and property taxes. The study includes an inventory of economic, environmental and community costs associated with new residential development.

15. **Should Minnesota Pursue Progressive Tax Policy to Stimulate Investment in Pollution Prevention and Energy Conservation? Case Studies and Social Benefits** (Completed by Tellus Institute, Boston, MA, June 1997) (January 1, 1997 Update)

16. **Residential Energy Efficiency Potential** (Completed by Biko Associates, Minneapolis, MN, June 1997) (January 1, 1997 Update)

17. **Barriers to the Growth of Sustainable Businesses in Minnesota** (Completed by Dr. A. Marcus, Carlson School of Business, University of Minnesota, Minneapolis, MN, June 1997) (January 1, 1997 Update)

18. **Environmental Regulation for Sustainable Development** (Completed by Dr. D. Geffen, University of Minnesota, Minneapolis, MN, June 1997) (January 1, 1997 Update)

Expenditures to December 31, 1996:

Full-time	\$121,585.53
Part-Time, Seasonal, Labor Ser	23,352.25
Prof/Tech Services Outside Vendor	47,740.00
Travel & Subsistence -Instate	323.46
Travel and Subsistence -Outstate	580.72
Supplies	435.75
Equipment	1,858.43
Employee Development	55.00
Other	4,068.45
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Total Expenditures	\$199,999.59

IV. Statement of Objectives:

A. Title: Engage Citizens to Guide Project

Outcomes: The Board and its cooperators will work with the Round Table on Sustainable Development to establish a project steering committee to advise in selection of the barriers to be assessed in each sector and the criteria for their evaluation. The committee also will advise the Board and its project team in evaluating and ranking barriers and crafting strategies to eliminate priority barriers.

B. Title: Describe and Assess Government Barriers to Sustainable Development

Outcomes: The Board and its cooperators will assess the priority barriers to sustainable development and will estimate the nature and magnitude of their effects on the environment and economy.

C. Title: Make the State a Model of Sustainable Development

Outcomes: Working with the steering committee, the Board and its cooperators will design strategies to address priority barriers to sustainable development. Before the state can expect others to adopt sustainable practices, it must do so itself. Therefore, opportunities to make the state an economically and environmentally sustainable enterprise will be a priority.

Timeline for Completion of Objectives:

	7/95	1/96	6/96	1/97	6/97
Objective A:	Engage Citizens to Guide Project				
	xx				
Objective B:	Describe and Assess Government Barriers to Sustainable Development				
	7/95	1/96	6/96	1/97	6/97
	xx				
Objective C:	Make the State a Model Enterprise of Sustainable Development				
	7/95	1/96	6/96	1/97	6/97
	xx				

Objective A: (January 1, 1996 Update)

- Discussions have been held with all EQB member agencies regarding present efforts to promote sustainable development in Minnesota
- Focus groups and advisory panels will be convened so as part Round Table process which began in March 1996.

Focus groups were held beginning in July, 1996. (July 1, 1996 Update)

- Meetings with local government officials, non-profits, businesses and citizens groups provided additional input into the Pathways Project. Additional formal and informal meetings will be held throughout the duration of the Pathways Project to ensure broad-based input.

Objective B: (January 1, 1996 Update)

- An assessment of barriers identified by the seven teams has been compiled and prepared for review by the Round Table.
- A list of barriers and proposed research projects to address these barriers and related policy alternatives has been developed.
- Briefing papers were prepared for the Energy, Manufacturing and Settlement projects. These papers include amended lists of barriers. (July 1, 1996 Update)
- Project proposals have been drafted to bring forward to the Assessment phase of the project. (July 1, 1996 Update)

- Additional focused literature searches have been initiated with the addition of intern staff. (July 1, 1996 Update)
- (January 1, 1997 Update) The Assessment phase of the project was initiated during this period. Description and assessment of barriers to sustainable development began with the focus group process and has moved forward to specific policy research projects. Policy research projects will include detailed descriptions of specific barriers, assessment of these barriers and recommendations to make Minnesota a model of sustainable development. Project efforts will be distributed evenly across the areas of Energy, Manufacturing and Settlement.
- (Final Update – July 1, 1997) The Pathways Project completed the following studies in fulfillment of this phase of the Project.
 1. Pathways to Sustainable Development Project Summary
 2. Brownfields in Minnesota: An opportunity for sustainable development
 3. Maps of Potential Brownfield Sites in Minnesota
 4. Fiscal Patterns and Population Trends
 5. Maps of Fiscal Patterns and Population Trends
 6. Minnesota Policies Affecting Residential Development
 7. Maps of Policies Affecting Residential Development
 8. Energy in Minnesota: A Briefing Paper
 9. Manufacturing in Minnesota: A Briefing Paper
 10. Settlement in Minnesota: A Briefing Paper
 11. Carbon Tax Issues: A Briefing Paper
 12. Public Incentives for Business in Minnesota: A Briefing Paper
 13. Sustainable Development Directory (A web site of sustainable development efforts serving Minnesota)
 14. Residential Energy Efficiency Potential (Consultant's Report)
 15. Should Minnesota Pursue a Progressive Tax Policy to Stimulate Investment in Pollution Prevention and Energy Conservation (Consultant's Report)
 16. Barriers to the Growth of Sustainable Businesses in Minnesota (Consultant's Report)
 17. Environmental Regulation for Sustainable Development (Consultant's Report)
 18. The project also produced several unique data sets containing economic and/or environmental data and information. These data sets are coded in compliance with LCMR data management requirements. Data sets are available upon request. These data sets include:

- Population trends in Minnesota cities and townships for the period 1985-1994

- Selected fiscal data and trend information on Minnesota cities and townships as reported to the MN State Auditor for the period 1985-1994
- Enhanced data sets for 2 digit Standard Industry Codes for MN businesses as collected by the Department of Revenue
- Crime rates by county for the period 1980 – 1993 with rates for Part I crimes as collected by the MN Criminal Justice Center
- Preliminary GIS data sets compiling proximity of various populations to sites listed in the MPCA Master Entity Database as compiled by the US Bureau of Census and the MPCA
- Commuter pattern data and trends in commuter numbers and destinations in Minnesota

Objective C:

- (January 1, 1996 Update) This phase of Pathways is not scheduled to begin until June of 1996. (July 1, 1996 Update) This phase of the project is not due to begin until mid-year of 1996.

(January 1, 1997 Update) Strategies for making Minnesota a model of sustainable development are an integral part of the policy research process. Policy changes to make the state a model of sustainable development will address the barriers identified during the course of the Pathways to Sustainable Development Project. Recommendations will be presented as part of the final report to the LCMR.

- (Final Update – July 1, 1997) Recommendations and policy options to make Minnesota a model of sustainable development were drafted and included in each of the policy research reports. These recommendations suggest ways to correct government barriers to sustainable development in energy, manufacturing and settlement. These recommendations and policy options are intended to help Minnesota determine policies that achieve environmental goals and improve private sector competitiveness.

V. Objectives/Outcomes:

A. Title of Objective/Outcome: Engage Citizens to Guide Project

A.1 Activity: Employ the Minnesota Sustainable Development Round Table in guiding the *Pathways* project.

A.1.a. Context within Project: Collaboration is a key concept in sustainable development and the *Minnesota Sustainable Development Initiative*. The Minnesota Sustainable Development Round Table, a broad-based citizens committee, will be established to advise the Governor and Board on all aspects of the state's sustainable development efforts. Given the project's importance to the Initiative and its wide-ranging focus, the Round Table is the appropriate forum to guide the project and advise the Environmental Quality Board on the *Pathways* project. Therefore, a committee of the Round Table will serve as the project's steering committee on behalf of the Board. The committee will provide project direction by advising the project team on criteria for selecting and evaluating the barriers to sustainable development, advising the team on its assessments of barriers and strategies to overcome them, and assisting the team in its outreach efforts. Outreach efforts may also include the use of focus groups to gain broader involvement of affected citizens in the project's assessments.

A.1.b. Methods: The Minnesota Sustainable Development Round Table will be appointed by September 1995. Funding to support the Round Table and its other functions has been provided by the Legislature. Round Table expenses (e.g., such as committee or focus group meetings) incurred in guiding the *Pathways* project will be funded through the project. Clerical support will be provided by classified clerical staff as required by the Department of Employee Relations. This staff will be supported by funding from a variety of special project sources in direct proportion to the workloads they require. It will not replace General Fund support for General Fund activities. The *Pathways* project will rely upon the work of the seven teams of the *Minnesota Sustainable Development Initiative* and the feedback received at the 1994 Congress on Sustainable Development in identifying Minnesota's laws, regulations and policies that may impose barriers to sustainable development in the areas of energy, manufacturing, and settlement. The Environmental Quality Board's growth management project will also be used to identify possible barriers relating to settlement.

A1.c. Materials: (See B.1. below.)

A.1.d. Budget

Total Biennial Budget: \$25,000
LCMR Balance: \$25,000

A.1.e. Timeline:
Objective A: Engage Citizens to Guide Project

Timeline:	7/95	1/96	6/96	1/97	6/97
Round Table Convened	xxxxxxx				
Criteria Recommended	xxxxxxxxxxxxxxxxxxxxxx				
Barriers Recommended	xxxxxxxxxxxxxxxxxxxxxx				

B. Title of Objective/Outcome: Describe and Assess Barriers to Sustainable Development

A.1. Activity: Survey of the literature

B.1.a. Context within project: A literature search will enable the project team to build upon other efforts to define barriers, as well as employ study methods others have found successful in understanding these barriers.

B.1.b. Methods: A project team led by the program manager and consisting of the program manager, the research analysis specialist and consultants will conduct the literature search and catalog the information generated. Student assistants will assist the team in carrying out research tasks.

B.1.c. Materials: *Pathways* requires a computer for project administration and to enable project staff to organize and assess the barriers and strategies under consideration, and to compile and evaluate comments received through the review process. Estimated costs of computer rental are approximately \$2,000 for the two-year life of the project, an amount in excess of the expected purchase price of \$1,500. Given that discussions centering around *Pathways* recommendations and case studies are expected to continue for several years after the project's completion, purchase is recommended. All equipment purchased with this appropriation will continue to be used by the same program through its useful life. If that use changes, Minnesota Planning will pay back to the trust fund an amount equal to either the cash sale price received from sale of the computer or a residual value to be negotiated with the Director, if the computer is not sold.

B.1.d. Budget
Total Biennial Budget: \$25,000

LCMR Balance: \$25,000

B1.e. Timeline

Timeline:	7/95	1/96	6/96	1/97	6/97
Catalog of Case Studies and Research Methods	xxxxxxxxxxxxxxxxxxxxxxxxxxxx				

B.1.f Workprogram Update:

(January 1, 1996 Update) A computer was purchased for use by Pathways staff.

(January 1, 1996 Update) A literature search has been initiated. Literature review will be accelerated pending approval by the Round Table and selection of Pathways graduate student interns. Documentation of general case studies and literature on sustainable development and related issues in environmental economics is proceeding.

(July 1, 1996 Update) Literature searches have been accelerated and focused since the addition of graduate student intern. Compilation of bibliographies and a catalogue of case studies has proceeded in all three issue areas. The majority of efforts during this period was in the areas of Energy and Manufacturing. Literature searches will continue as needed throughout the Assessment and Model phases of the Pathways Project.

B.2. Activity: Select and apply research methods in description and assessment of barriers

B.2.a Context within Project: The project team will select barriers to be assessed based upon recommendations of the steering committee in Activity A.1 from the set identified by the seven teams of the *Minnesota Sustainable Development Initiative* in the areas of energy, manufacturing and settlement as may be supplemented by the literature search in B.1.

B.2.b. Methods: The project team will work with the steering committee to select and apply the research methods most suitable to understanding the nature and magnitude of the effects of each selected barrier has on the environment and the economy. Each barrier is likely to require its own

assessment method. For example, assessment of the protection of agricultural lands from urbanization would require a different approach than assessment of the forces that impede sustainable manufacturing. To the extent feasible, the principles of full cost accounting and least cost planning will underlie the methods chosen.

(January 1, 1997 Update) Barrier description and assessment were initiated during this reporting period. Please refer to the attached project proposals for details on the methodologies selected for individual research projects on barriers to sustainable development.

B.2.c. Materials: (See B.1. above.)

B.2.d. Budget
Total Biennial Budget: \$75,000
LCMR Balance: \$75,000

B.2.e. Timeline

Timeline:	6/97	7/95	1/96	6/96	1/97
Barriers Described			xxxxxxxxxxxx		
Barriers Assessed			xxxxxxxxxxxxxxxx		

B.2.f. Workprogram Update:

(January 1, 1996 Update) Barriers identified by the seven teams of the Minnesota Sustainable Development Initiative’s first phase have been summarized and assessed. Round Table collaboration will be sought prior to selection of a specific set of barriers for analysis. The barriers summary and preliminary project proposals are attached.

(July 1, 1996 Update) Barrier Description was initiated during this period. Final description of barriers will be completed through meeting with the Steering Committee of the Round Table and with input from Focus Groups in each topic area.

(January 1, 1997 Update) Please refer to the project proposals and the compilation of barriers in attachments accompanying this work program update.

C. Title of Objective/Outcome: Make the State a Model of Sustainable Development

C.1. Activity: Identify options and recommend strategies for addressing priority barriers.
C.1.a. Context within project: The ultimate purpose of *Pathways* is to deliver strategies for removing barriers to sustainable development, or reducing their effect. These strategies will provide information and options decision-makers can use to make positive changes in Minnesota policy.

C.1.b. Methods: Based on full-cost accounting principles, the project will evaluate regulatory, tax, investment and administrative policy changes considering their potential effects on the environment and the economy. The criteria for assessing barriers will also be used in evaluating solutions. The project team will use these criteria in evaluating the proposed solutions and designing a set of practical ways to adjust and add economic incentives (and/or eliminate barriers) so that the state consistently encourages sustainable behavior by the public, by business and within government itself. Guidelines will be developed for legislators and others to use to establish taxes, regulations, fees and investments that support sustainable development.

C.1.c. Materials: (Se B.1. see above.)

C.1.d. Budget
Total Biennial Budget: \$75,000
LCMR Balance: \$75,000

C.1.e. Timeline:

Timeline:	6/97	7/95	1/96	6/96	1/97
Priorities Set				xxxxxxxxxxxxxx	
Strategies Designed				xxxxxxxxxxxxxxxxxxxxxx	
Final Project Report					xxxxxxxxxx

C.1.f. Workprogram Update:
This phase of Pathways is not scheduled for implementation until June 1996. (July 1, 1996 Update)
Action on this item has been deferred until the Steering Committee has had an opportunity to meet.

(January 1, 1997 Update) Methods have been selected for individual projects applying the principles of full cost pricing, accepted policy analytic methods and risk analysis. Please refer to the attached policy research proposals for detail on methodologies selected for individual policy research projects. A full chapter on policy research methodologies will be included in the final report to the LCMR.

VI. Evaluation

The tests of project success will be: a) the use of its information and recommendations in debate of policy changes at the Minnesota Legislature, in the executive branch of government and among public and private interests throughout Minnesota; and, b) in practical terms, the passage of legislation, where applicable, and the implementation of administrative procedures and policies that respond to the strategies developed. The potential effects of the project are profound, potentially affecting the ways we develop, and redevelop, cities, energy systems and manufacturing.

VII. Context within field: By ensuring that government rewards sustainable behavior, *Pathways* is an essential element in the Sustainable Development Initiative, complementing efforts to establish a policy and planning framework for Minnesota’s communities, economies and environment. Without these changes, the best intentions of policy makers will likely fall prey to economic forces that drive citizen, consumer, business and governmental behaviors. While many academic, non-profit and local, state and federal governments have begun to show interest in evaluating the effects of policy on sustainable development, we know of none that committed to the kind of direct and comprehensive analysis of state law and policy that *Pathways* represents.

VIII. Budget context: The Environmental Quality Board and its cooperators will have committed approximately \$30,000 in professional and expert advisory time to the project by June 30, 1995, and approximately \$100,000 in professional and expert advisory time during the two-year period ending June 30, 1997. About 50% of the money is expected to come from the General Fund. The remainder is expected to come from private, local and federal sources.

IX. Dissemination: The network of project cooperators and advisors developed throughout the project will become the base for disseminating project results through presentations, publications, workshops and a final report highlighting findings of the project.

X. Time: The project will be completed within the two-year time frame. We expect to use the information and recommendations generated for several years to come afterward, however, in working to secure legislative and administrative policy changes.

XI. Cooperation: Dr. Barbara Lukermann, Senior Fellow and Director of the HHH Institute of Public Affairs Planning Program and Dr. Alfred Marcus, Director of the Carlson School of Management’s Strategic Management Research Center, will assist with the research called for in *Pathways* by formulating and supervising research contributions to be made by graduate students from their respective departments in cooperation with the program manager. The program manager will spend approximately 25 percent of his time on the project divided equally between the three objectives. Drs. Lukermann and Marcus will devote most of their assistance to objectives “B” and “C”

in roughly equal proportions . Their departments may receive direct financial assistance for the employment of student researchers ; however, the program manager may elect to employ the students directly if it appears more efficient to do so. In either case, the consultation and advice of the cooperators will be important to the success of the project.

XII. Reporting Requirements: Semiannual six-month workprogram update reports will be submitted not later than January 1, 1996, July 1, 1997 and a final six-month workprogram update and final report by June 30, 1997.

XIII. REQUIRED ATTACHMENT:

1. Qualifications:
2. Project Staffing Summary: