LCMR Final Status Report - Summary - Research

I. Land use AND DESIGN STRATEGIES TO ENHANCE ENVIRONMENTAL QUALITY - LAND 15

Program Manager: Harrison Fraker, Professor and Dean
University of Minnesota
College of Architecture and Landscape Architecture
89 Church St. S.E.
Minneapolis, MN 55455
612-626-1000

A. ML 91 Ch 254 Art. 1, Sec. 14, Subd. 10 (g) **Appropriation: $100,000**
Expenditures: $100,000
Balance: -0-

"This appropriation is to the University of Minnesota, College of Architecture and Landscape Architecture, to develop a land use and design concept for typical sites on light rail transit and freeway systems. The work must be done in consultation with the Metropolitan Council and the Regional Transit Board."

B. Compatible Data Language - not applicable

C. Status of Match

No outside match is required for this project; however, the LCMR should be aware that CALA will be making a considerable in-kind investment of time by the program manager, faculty, graduate students, and consultants before and during the project. **The final contribution to the project by CALA has been $49,700.**

II. Narrative

Recent urban design concepts have been developed which take advantage of the land use potential of new metropolitan transportation systems (like "light-rail and/or park-and-ride systems). These concepts provide alternative development strategies to the negative environmental impacts of suburban sprawl. One of these ideas which has received national publicity is the "Pedestrian Pocket"*. It proposes an intensification of land use (medium rise, high density) around station stops which is both mixed-use and pedestrian in scale. Through careful design and planning, it seeks to create a walking scale environment with pedestrian access to most basic services. The concept has been shown to be an exciting alternative to sprawl. This project proposes to apply the pedestrian pocket concept to develop land use and urban design guidelines for typical station stops on the light-rail transit system proposed for the Twin Cities and at potential locations for "park and ride" stations on the existing freeway system.

* The pedestrian pocket concept was originally published in 1989 by Princeton University Press entitled: The Pedestrian Pocket Book, A New Suburban Design Strategy, co-authored by project manager, Harrison Fraker. Peter Calthorpe, lead author, was featured recently in Newsweek magazine as a design innovator for the 90's because of his role in developing the "pedestrian pocket" concept.

III. Objectives

A. Analyze and Assess Existing Land use/Urban Design Precedents

A.1. Narrative: Many cities in North America have installed light-rail or multi-model (park and ride) transit systems. The focus of this objective is to document, analyze and evaluate the land use and urban design changes that have occurred around typical stops. The evaluation will describe in detail the advantages and disadvantages of these land use changes in terms of their impact on the environment and the quality of life created.

A.2. Procedures: Relevant information and data will be collected and compiled from significant selected cities of comparable size to the Twin Cities. Selected site visits and interviews with the city planning staff will be conducted. Criteria for evaluation will be established and comparative evaluations undertaken.

A.3. Budget:

	LCMR Funds
a. Amount Budgeted:	$20,500
b. Balance:	-0-

A.4. Timeline for Products/Tasks

	July 91	Jan 92	June 92	Jan 93	June 93
Collect data	o	x	x		x
Compile/analyze data	o	x	x		x
Establish/Conduct Evaluation	o	x	x		x
Report of Analysis/Evaluation		o	x	x	x

A.5. **Status: This objective has been completed. The LRT and dedicated bus way systems in two cities, Pittsburgh and Buffalo, have been visited and videotaped. Key city planners and transit people have been interviewed and relevant information has been collected. Since the systems are relatively new no change had occurred in the land use around station stops. It was decided not to visit other systems because they are also new and land use changes had not occurred around their station stops either. It was decided to move the remaining resources in this objective to objectives D and E.**

A.6. Benefits: Information on these kinds of land use/design precedents have never been compiled and analyzed systematically. It will allow comparative analysis of different land use control strategies and the relative merits of the physical design strategies developed. This work will form the basis for the development of new design strategies for Minnesota.

B. Select Specific Case Study Sites

B.1. Narrative: Several sites on the proposed light-rail and existing freeway systems in the metropolitan area will be selected as case study prototype sites to test the physical design scenarios based on the pedestrian pocket principles.

B.2. Procedures: Using the analysis, evaluation criteria and information collected in objective A, potential sites will be identified for study. The LRT corridor task groups, the RTB, and Metropolitan Council will be consulted in making a final selection of between 2-5 sites for design studies.

B.3. Budget

	LCMR Funds
a. Amount Budgeted:	$5,900
b. Balance:	-0-

B.4. Timeline for Products/Tasks July 91 Jan 92 June 92 Jan 93 June 93

Identify potential sites	o--x
Select final sites	o--x

B.5. **Status: This objective has been completed. Five station sites on the proposed LRT system were selected in consultation with the Metropolitan Council staff: Robbinsdale, Bloomington, Hiawatha at Lake, Hiawatha at 46th Street and I-94 at Dale. The sites were selected in order to test three different types of LRT alignments, three different types of governmental structures, and five different types of physical configuration. An additional site has been added, a multi-modal transit node at the Phalen Shopping Center in northeast St. Paul. It was also selected in close consultation with the Metropolitan Council staff as one of the cities' most challenging potential transit improvement locations.**

B.6. Benefits: Careful selection of case study sites to test the urban design scenarios will ensure that essential principles of the pedestrian pocket concept will be explored for the metro area.

C. Develop Urban Design Prototypes

C.1. Narrative: Using the analysis and evaluations generated from Objective A as a basic starting point and the sites selected in Objective B, alternative urban design prototypes will be generated which explore low to medium rise, high density, mixed-use, pedestrian scale developments. The advantages and disadvantages of the proposed designs will be clearly documented.

C.2. Procedures: Generation of the urban design prototypes will follow accepted design practice by: 1) developing alternative design concepts, 2) representing and modeling concepts (including computer modeling), 3) critiquing and evaluating the concepts, and 4) redesigning in an iterative process until alternative designs are developed which address the specific needs of each community and the evaluation criteria generated in Objective A above.

C.3. Budget

	LCMR Funds
a. Amount Budgeted:	$35,800
b. Balance:	-0-

C.4. Timeline for Products/Tasks July 91 Jan 92 June 92 Jan 93 June 93

Generate preliminary alternatives	o---------x
Represent/model alternatives	o---------x
Redesign	o---------x---------x
Develop final designs	o---------x---------x

C.5. **Status: This objective is now completed. Preliminary design concepts for the selected sites have been generated. The design concepts have been represented and modeled graphically. The design concepts have been presented to and critiqued by neighborhood and community groups. Redesign has been completed. The final designs have been presented and their principles clearly documented. The sites include the original five identified and the one additional site - the multi-modal transit node in the Phalen neighborhood in northeast St. Paul.**

C.6. Benefits: The development of alternative design concepts for typical sites on the LRT and freeway systems will provide local MN communities with clear description and representation of alternative choices for the kinds of development they want in their neighborhoods. They will be able to see the design before they happen. It will show local communities the physical models for which the land use guidelines will have been developed.

D. Develop Model Land use/Design Guidelines

D.1. Narrative: From the alternative urban design prototype generated in objective C above, model land use/design guidelines will be prepared. These guidelines will establish the rules to which all development around station stops must conform, mandating the design qualities desired.

D.2. Procedures: Prepare model land use/design guidelines and procedures for development.

D.3. Budget:

	LCMR Funds
a. Amount Budgeted:	$15,300
b. Balance:	-0-

D.4. Timeline for Products/Tasks July 91 Jan 92 June 92 Jan 93 June 93

Prepare preliminary model guidelines	o---------x----------x
Prepare final guidelines	o---------x----------x

D.5. **Status: As the research work progressed, the separation between Objectives C and D became less clear. The development of urban design prototypes, the articulation of design principles and the development of urban design guidelines evolved in a seamless process. The results are published in the CALA Working Papers, Vol. 1, Nos. 1 and 2. The real value of the work and the guidelines developed can be measured by the fact that two of the case study sites (Robbinsdale and Phalen) have produced "real" plans based on the guidelines from the research. They are now in active implementation. Thus the results have had an immediate and concrete impact on two Minnesota communities. More importantly, the policy implications of the research are having a significant influence on the new Metropolitan Development and Investment Framework currently in preparation by the Metropolitan Council which shall have a long range impact on the region.**

D.6. Benefits: Good urban design prototypes are not sufficient in themselves to ensure that a community will get the designs it wants. Model land use/design guidelines provide a community with the specific tools to control development which achieves the urban design quality desired.

E. Publication and Presentation of Guidelines

E.1. Narrative: Model land use/urban design guidelines will be published for the sites studied. A presentation for local officials, community and neighborhood groups will be prepared.

E.2. Procedure: Preliminary drafts of the guidelines will be written and include appropriate drawings and diagrams to ensure clear presentation of the guidelines. The presentation for local communities will be in the form of a complete slide show.

E.3. Budget:

	LCMR Funds
a. Amount Budgeted:	$22,500
b. Balance:	-0-

E.4. Timeline for Products/Tasks

	July 91	Jan 92	June 92	Jan 93	June 93
Prepare written guidelines			o--------x	--------x	
Prepare information packet			o--------x	--------x	

E.5. Status: **The model land use/urban design guidelines have been published in the following three "Working Papers:"**

1) **"Filling In," Transit and Land use/Urban Design Strategies to Enhance Environmental Quality, CALA Working Papers, Vol. 1 No. 1, February 1992, College of Architecture and Landscape Architecture**
2) **"Streets, Parks, Houses: Building a Pedestrian Neighborhood," A Case Study Integrating Transit and Land use/Urban Design Strategies, CALA Working Papers, Vol. 1, No. 2, June 1993, College of Architecture and Landscape Architecture**
3) **"Zoning Is Not Enough," The Need for Specific Urban Design Guidelines: Lessons Learned from the Transit and Land use Urban Design Case Studies," CALA Working Papers, Vol. 1, No. 3, June 1993, College of Architecture and Landscape Architecture.**

The findings and results have been presented to local officials and community groups with slides and drawings in over 20 meetings. The results have been presented to numerous important professional meetings and the legislature (see detailed report).

E.6. Benefits: The development of alternative land use/design concepts and guidelines for typical sites on the freeway systems and the proposed LRT system will provide local communities with clear choices for the kind of development they want in their neighborhoods. Through the use of the visual materials developed, the design and environmental consequences of land use decisions will be able to be seen before the decisions are implemented. Clear models for land use/design guidelines will be provided.

IV. Evaluation

For the FY 92-93 biennium, the program can be evaluated on the following criteria: 1) the quality of information generated from the analysis of existing precedents, 2) the quality of urban design prototypes and their ability to address the desired design qualities of local communities, 3) the usefulness of land use/urban design guidelines for application by local communities.

In the long term, the evaluation of this project will depend on whether it has helped local communities make better decisions about how to control development around LRT or "park-and-ride" stations; and whether the new development improves the environmental quality of the neighborhood.

V. Context

A. Our land use and settlement patterns have been shown to be serious contributors to the degradation of our environmental quality. The continued expansion of suburban sprawl contributes to water pollution through excess runoff and other interruptions of natural systems and to air pollution through the traffic congestion that has resulted from these settlement patterns. The kinds of congestion and pollution problems facing Los Angeles today are a likely reality for all our metropolitan areas in the future if reasonable design alternatives are not found. These problems have occurred because the interrelation between land use and transportation issues have not been considered together.

B. One alternative to the negative impact of sprawl is to develop innovative urban design prototypes which take advantage of new metropolitan transit systems like LRT or park-and-ride systems. The purpose of these innovative urban design alternatives is to intensify development around station stops, providing a pedestrian environment with access to most basic services, thus slowing sprawl and providing an alternative living environment to one that is dependent on the car.

Recently, the "Pedestrian Pocket" urban design concept has received national publicity because it provides an exciting alternative to sprawl. This project proposes to test the urban design concepts of the "Pedestrian Pocket" for typical sites in the Twin Cities metro area; and to extend its principles by developing land use guidelines which would control and enable such developments to happen in local communities. This project joins land use/urban design considerations with LRT and transportation planning issues rather than keeping them separate under the current planning structure.

C. The Program Manager has played an important role in developing the "Pedestrian Pocket" concept without LCMR funds. While this project will allow the testing of several typical sites in the metropolitan area, it may not be able to examine all the important conditions. Thus, funding beyond the FY 92-93 biennium may be sought from the LCMR.

D. Not applicable

E. Biennial Budget System Program Title and Budget: Not applicable at this time.

VI. Qualifications

1. Program Manager

Harrison Fraker
Professor and Dean
College of Architecture and Landscape Architecture
University of Minnesota
89 Church St. S.E.
Minneapolis, MN 55455

MFA in Architecture and Urban Planning, Princeton University, 1966
Thesis Title: "Princeton - Past, Present, Future Urban Design Alternatives"
BA in Architecture, Princeton University, 1964

In addition to his thesis work, the program manager has been a practicing professional in architecture and urban design for twenty years and recently (in last three years) has devoted significant scholarship to the field. He is a co-author of the Pedestrian Pocket, Princeton Architectural Press, 1989, on which much of the proposed project is based.

2. Major Cooperators

A. **Professor William Morrish**
Associate Professor and Director, Design Center for American Urban Landscape

M.Arch in Urban Design, Harvard University, 1978
B.Arch., University of California, Berkeley, 1971

Professor Morrish has taught and published extensively in the fields of architecture, urban design, and related topics. As a practicing architect and consultant, he was a co-founder of the urban design firm CITYWEST, which specializes in the cultural, aesthetic and economic development of cities. Under his leadership, the Design Center for American Urban Landscape is becoming a leading research and analysis center on issues of urban design.

B. **Professor Barbara Lukermann**
Senior Fellow, Hubert H. Humphrey Institute of Public Affairs and
Research Associate, Center for Urban and Regional Affairs

M.A. Geography, University of Minnesota, 1954
B.A. Geography, University of Cambridge England, 1952

Professor Lukermann's research and teaching interests focus on the built environment and the role of the public sector in intervening in the market. Her interests bring a larger scale context to how cities and urban space/land uses evolve in response to shifting technologies and accessibility. Recent research has been on demographic forces, aging of the housing stock of the state and the pressures to rebuild or maintain neighborhood vitality.

C. **Professor Thomas Anding**
Associate Director, Center for Urban and Regional Affairs

Professor Anding's fields of specialization include the environment, economic development, and land use planning. He has previously served as executive director and urban development director with the Upper Midwest Research and Development Council. With a strong sub-interest in Native American issues, Professor Anding is currently directing a multi-year research effort looking at transportation problems on remote Indian reservations. He has also completed research into water-related environmental and agricultural problems in the Duschee Creek watershed in Minnesota.

D. **Ms. Karen M. Lyons**
Transportation Planner, Metropolitan Systems Division, Metropolitan Council

B.A Urban Studies, University of Minnesota, Duluth, 1982
The following responsibilities which Ms. Lyon's fulfills at the Metropolitan Council

demonstrate her qualifications as a cooperator: Eight years as a planner, with emphasis on transit. Responsibilities have required close working relationships with the Regional Transit Board, Minnesota Department of Transportation, County Regional Rail Authorities, and local units of government.

E. **Mr. Richard Thompson**
Senior Planner, Comprehensive Planning and Local Assistance Division, Metropolitan Council

M.S. Urban and Regional Planning, University of Wisconsin, 1972
B.A. Political Science, College of St. Thomas, 1968

The following responsibilities which Mr. Thompson fulfills at the Metropolitan Council demonstrate his qualifications as a cooperator: Currently review plan amendments; prepare reports such as Study of Regional Business Concentrations and assist on reports such as LRT/Land Use Coordination Report; coordinate Council role in planning for Mississippi National River and Recreation Area; oversee Mississippi Critical Areas responsibility for the Council.

VII. Reporting Requirements

Semiannual status reports will be submitted not later than Jan. 1, 1992; July 1, 1992; Jan. 1, 1993; and a final status report by June 30, 1993.

1991 RESEARCH PROJECT ABSTRACT
FOR THE PERIOD ENDING JUNE 30, 1993
This project was supported by MN Future Resources Fund (MS 116.13)

TITLE:	Land Use and Design Strategies to Enhance Environmental Qualities - Land 15
PROGRAM MANAGER:	Harrison Fraker, Professor and Dean
ORGANIZATION:	College of Architecture and Landscape Architecture, University of Minnesota
LEGAL CITATION:	ML 1991, Ch. 254, Art. 1, Sec. 14, Subd. 10g
APPROP. AMOUNT:	$100,000

STATEMENT OF OBJECTIVES

To develop prototypical land use and urban design guidelines for typical station stops on light rail transit (LRT) and busway systems based on the "pedestrian pocket" concept which integrates transit and land use planning to create pedestrian oriented neighborhoods with improved environmental quality.

RESULTS

-- Initially five case study sites were identified with Metropolitan Council staff. Urban design prototypes were developed with the local communities. The principles were finalized into a set of urban design guidelines as follows: 1) create an "imageable" station stop, 2) integrated with a compact, mixed-use commercial core, 3) increase density and diversity of housing within a ten minute walk and 4) more carefully design the public open space system of streets, sidewalks, parks, and squares with pedestrian and bike emphasis. It was found that half of the projected metroplitan growth over the next 25 years could be easily accommodated by such a strategy of "Filling-In" with extremely positive economic, environmental and quality of life impacts on existing neighborhoods and communities. It was further found that LRT alignments on abandoned RR lines make it easier to design pedestrian neighborhoods than when the alignments are located in freeway medians.

   This work has had an important influence on the new Metropolitan Development and Investment Framework (MDIF) in progress, and the Regional Transit Facilities Plan, February 1992. One of the cities, Robbinsdale, has developed its own specific Downtown Redevelopment Plan using guidelines from the research. It is in the process of implementation.

-- A sixth case study site, Phalen neighborhood in St. Paul, was selected with Met Council staff. An urban design framework was developed in cooperation with the Phalen Small Area Plan Task Force. Highlights of the framework include: 1) removing an old shopping center and recreating a wetlands park as a neighborhood amenity and "signature," 2) building a neighborhood commercial transit node which balances the needs of pedestrians, cars and transit, and 3) reintroducing distinct neighborhood streets as a focus for rehabing existing deteriorating housing blocks and developing new diverse housing types. This framework has had a major influence on the final Phalen Village Small Area Plan which is to be included in the St. Paul Comprehensive Plan and is a model of how to redevelop "core" neighborhoods.

-- All six case studies underscore the need for local communities and neighborhoods to be able to create special "urban design districts" allowing more specific urban design guidelines than are normally included in current planning and zoning practice. Robbinsdale was able to achieve this end through its Tax Increment Finance process. The Phalen case study was instrumental in the City of St. Paul having new legislation passed enabling the city to create "special design districts."

PROJECT RESULTS USE AND DISSEMINATION

The results have been published in the following three "Working Papers" and are available through the College of Architecture and Landscape Architecture:

1. **"Filling In" Transit Land Use/Urban Design Strategies to Enhance Environmental Quality**, CALA Working Papers, Vol. 1, No. 1, February 1992
2. **"Streets, Parks, Houses: Building a Pedestrian Neighborhood," A Case Study Integrating Transit and Land Use/Urban Design Strategies**, CALA Working Papers, Vol. 1, No. 2, June 1993
3. **"Zoning Is Not Enough," The Need for Special Urban Design Districts: Lessons Learned from the Transit and Land Use Urban Design Case Studies,"** CALA Working Papers, Vol. 1, No. 3, June 1993

The results have been disseminated in over 20 presentations to local community and planning groups, three major presentations to professional meetings and conferences, and in two presentations to committees of the Minnesota Legislature.

I. LAND USE AND DESIGN STRATEGIES TO ENHANCE ENVIRONMENTAL QUALITY - LAND 15

Program Manager: Harrison Fraker, Professor and Dean
University of Minnesota
College of Architecture and Landscape Architecture
89 Church St. S.E.
Minneapolis, MN 55455
612-626-1000

A. ML 91 Ch 254 Art. 1, Sec. 14, Subd. 10 (g) **Appropriation: $100,000**
Expenditures: $100,000
Balance: -0-

"This appropriation is to the University of Minnesota, College of Architecture and Landscape Architecture, to develop a land use and design concept for typical sites on light rail transit and freeway systems. The work must be done in consultation with the Metropolitan Council and the Regional Transit Board."

B. Compatible Data Language - not applicable

C. Status of Match

No outside match is required for this project; however, the LCMR should be aware that CALA will be making a considerable in-kind investment of time by the program manager, faculty, graduate students, and consultants before and during the project. **The final contribution to the project by CALA has been $49,700.**

II. Narrative

Recent urban design concepts have been developed which take advantage of the land use potential of new metropolitan transportation systems (like "light-rail and/or park-and-ride systems). These concepts provide alternative development strategies to the negative environmental impacts of suburban sprawl. One of these ideas which has received national publicity is the "Pedestrian Pocket"*. It proposes an intensification of land use (medium rise, high density) around station stops which is both mixed-use and pedestrian in scale. Through careful design and planning, it seeks to create a walking scale environment with pedestrian access to most basic services. The concept has been shown to be an exciting alternative to sprawl. This project proposes to apply the pedestrian pocket concept to develop land use and urban design guidelines for typical station stops on the light-rail transit system proposed for the Twin Cities and at potential locations for "park and ride" stations on the existing freeway system.

* The pedestrian pocket concept was originally published in 1989 by Princeton University Press entitled: The Pedestrian Pocket Book, A New Suburban Design Strategy, co-authored by project manager, Harrison Fraker. Peter Calthorpe, lead author, was featured recently in Newsweek magazine as a design innovator for the 90's because of his role in developing the "pedestrian pocket" concept.

III. Objectives

A. Analyze and Assess Existing Land Use/Urban Design Precedents

A.1. Narrative: Many cities in North America have installed light-rail or multi-model (park and ride) transit systems. The focus of this objective is to document, analyze and evaluate the land use and urban design changes that have occurred around typical stops. The evaluation will describe in detail the advantages and disadvantages of these land use changes in terms of their impact on the environment and the quality of life created.

A.2. Procedures: Relevant information and data will be collected and compiled from significant selected cities of comparable size to the Twin Cities. Selected site visits and interviews with the city planning staff will be conducted. Criteria for evaluation will be established and comparative evaluations undertaken.

A.3. Budget:

	LCMR Funds
a. Amount Budgeted:	$20,500
b. Balance:	-0-

A.4. Timeline for Products/Tasks

	July 91	Jan 92	June 92	Jan 93	June 93
Collect data	o	x		x	x
Compile/analyze data	o	x		x	x
Establish/Conduct Evaluation	o	x		x	x
Report of Analysis/Evaluation		o	x	x	x

A.5. Status:

A.5.1 **This objective has been completed. The LRT and dedicated busway systems in two cities, Pittsburgh and Buffalo, have been visited and videotaped. Key city planners and transit people have been interviewed and relevant information has been collected. Since the systems are relatively new no change had occurred in the land use around station stops. It was decided not to visit other systems because they are also new and land use changes had not occurred around their station stops either. It was decided to move the remaining resources in this objective to objectives D and E.**

A.5.2 **Although a systematic comparison of land use changes around station stops was not possible at the time of the study, valuable qualitative information was obtained from the two cities visited, especially Pittsburgh which is similar demographically to the Twin Cities. An entire 12 hour work day period was spending riding the LRT and busway systems, interviewing riders and operators while videotaping the station areas. The interviews were not systematic and therefore are not statistically relevant, however, the following qualitative impressions are important for Minnesota land use and transportation planning:**

1) **The riders were uniformly enthusiastic about both the LRT and busway service in their neighborhoods. Many of the riders knew and greeted the operators and felt a sense of pride in community with the transit system.**
2) **Both the LRT and busways are located on old RR right-of-ways, old trolley car right-of-ways and some city streets, as well as underground in the downtown area.**

The location of the LRT (and busways) in the neighborhoods (as opposed to freeway medians) was perceived by both planners and riders as a critically important decision to the success of the ridership. People walked to the stations. Although the alignment comes as close as 15-20 feet from existing houses and residential streets, the acceptance by riders and residents completely contradicts the "not in my back yard" (NIMBY) objections that have been raised in some planning efforts.

3) The ridership was higher than early conservative predictions. The ridership was extremely diverse across the 12 hour period with a peek rush-hour focusing on the downtown and mixed-use by the elderly, families and others in the off-peak hours for many convenience trips -- some just for fun.

A.6. Benefits: Information on these kinds of land use/design precedents have never been compiled and analyzed systematically. It will allow comparative analysis of different land use control strategies and the relative merits of the physical design strategies developed. This work will form the basis for the development of new design strategies for Minnesota.

B. Select Specific Case Study Sites

B.1. Narrative: Several sites on the proposed light-rail and existing freeway systems in the metropolitan area will be selected as case study prototype sites to test the physical design scenarios based on the pedestrian pocket principles.

B.2. Procedures: Using the analysis, evaluation criteria and information collected in objective A, potential sites will be identified for study. The LRT corridor task groups, the RTB, and Metropolitan Council will be consulted in making a final selection of between 2-5 sites for design studies.

B.3. Budget

	LCMR Funds
a. Amount Budgeted:	$5,900
b. Balance:	-0-

B.4. Timeline for Products/Tasks

	July 91	Jan 92	June 92	Jan 93	June 93
Identify potential sites	o	-	-	x	
Select final sites	o	-	-	x	

B.5. Status:

B.5.1 **This objective has been completed. Five station sites on the proposed LRT system were selected in consultation with the Metropolitan Council staff: Robbinsdale, Bloomington, Hiawatha at Lake, Hiawatha at 46th Street and I-94 at Dale. The sites were selected in order to test three different types of LRT alignments, three different types of governmental structures, and five different types of physical configuration. An additional site has been added, a multi-modal transit node at the Phalen Shopping Center in northeast St. Paul. It was also selected in close consultation with the Metropolitan Council staff as one of the cities' most challenging potential transit improvement locations.**

B.5.2 **The initial five sites were selected as case study locations to test the idea of filling in with higher density mixed-use, pedestrian oriented development around transit stops. The sites were located in relation to stations on the proposed 10 year LRT implementation plan. The number of sites was limited by the funds available in the LCMR grant for design exploration. The sites were selected to test three different types of LRT alignment: different political, governmental and zoning constraints; and some of the many different physical neighborhood contexts.**

Two of the stations selected are located on old railroad lines (Robbinsdale and Bloomington), two of the stations are located on major arterial streets (Hiawatha at Lake Street and Hiawatha at 46th Street), and one of the stations is located on a freeway median (I-94 at Dale).

Of these typical configurations, the "old railroad lines" seem to be the most favorable locations to build mixed-use pedestrian communities because the width of the ROW (35-50 feet) is the smallest, causing the least disruption for pedestrians. At the opposite end of the scale, the "freeway" location seems to have too wide a ROW (350-400 feet) to create a successful pedestrian environment around it.

Such locations seem to demand a feeder bus system to pedestrian neighborhoods at appropriate distances adjacent to the freeway. The "arterial" locations represent the middle ground, whether ROW (150-200 feet) is wide enough to be a significant impediment to pedestrians, however it may be overcome by careful urban design measures to bridge the psychological gap.

Two of the sites are located in independent municipalities (Robbinsdale and Bloomington) with their own tax structure, zoning ordinances, and system of governance and services separate from Minneapolis and St. Paul. Two are located in Minneapolis and St. Paul. Two are located in Minneapolis neighborhoods and one is located between two St. Paul neighborhoods.

Each location also has its own very particular physical, historical, and social contexts which demand different individual urban design responses. While each location was an opportunity to test the general application of mixed-use commercial/residential development, pedestrian oriented streets and walking scale environments, and modest increases in residential density with new types; the particulars of each site demanded a specific response with its own identify and signature, in sharp contrast to the homogeneity of suburban sprawl. A range of development types emerged differing in scale, economic market, identity, and character. The urban design prototypes and their principles provide a rich potential to create individual identities for each neighborhood which is specific to their place and history.

B.5.3 **The sixth case study location was selected after several meetings with Metropolitan Council staff which included a careful matrix analysis of and evaluation criteria for approximately 20 possible locations. The Phalen neighborhood was selected for the following reasons:**

1) It is in St. Paul.
2) There is a Small Area Plan Task Force in process with the Department of Planning and Economic Development.
3) The road system is scheduled for MNDOT improvements.

4) **It is targeted as a potential location for a multi-modal bus transit mode (and it was not an LRT station) and therefore a good test case for the policy recommendations in the Regional Transit Facilities Plan.**
5) **It is an inner city "core" neighborhood which is showing signs of decay and it would be a test case to see what kinds of urban design strategies and investments could address the problems.**
6) **The Department of Natural Resources is conducting an innovative study on how to improve storm drainage and water quality in the whole Phalen watershed area.**

B.6. Benefits: Careful selection of case study sites to test the urban design scenarios will ensure that essential principles of the pedestrian pocket concept will be explored for the metro area.

C. Develop Urban Design Prototypes

C.1. Narrative: Using the analysis and evaluations generated from Objective A as a basic starting point and the sites selected in Objective B, alternative urban design prototypes will be generated which explore low to medium rise, high density, mixed-use, pedestrian scale developments. The advantages and disadvantages of the proposed designs will be clearly documented.

C.2. Procedures: Generation of the urban design prototypes will follow accepted design practice by: 1) developing alternative design concepts, 2) representing and modeling concepts (including computer modeling), 3) critiquing and evaluating the concepts, and 4) redesigning in an iterative process until alternative designs are developed which address the specific needs of each community and the evaluation criteria generated in Objective A above.

C.3. Budget

	LCMR Funds
a. Amount Budgeted:	$35,800
b. Balance:	-0-

C.4. Timeline for Products/Tasks

	July 91	Jan 92	June 92	Jan 93	June 93
Generate preliminary alternatives	o---------x				
Represent/model alternatives	o---------x				
Redesign			o---------x	----------x	
Develop final designs		o---------x	----------x		

C.5. Status:

C.5.1 **This objective is now completed. Preliminary design concepts for the selected sites have been generated. The design concepts have been represented and modeled graphically. The design concepts have been presented to and critiqued by neighborhood and community groups. Redesign has been completed. The final designs have been presented and their principles clearly documented. The sites include the original five identified and the one additional site - the multi-modal transit node in the Phalen neighborhood in northeast St. Paul.**

C.5.2 **The major principles generated from the original five sites include the following:**

1) **An "imageable" station stop which provides an identifiable focus for development and which balances the requirements for drop-off and parking with the need to create a pedestrian friendly public place.**
2) **The creation of a compact, mixed-use commercial core integrated with the station stop which also balances the needs of the car and parking with the physical requirements for a clear, pedestrian friendly public realm (in the case studies this manifested itself as an improved version of "main street").**
3) **Increasing housing density within a ten minute walking radius of the station stop. It was found that doubling the housing density could be achieved only by changing the zoning to allow for a variety of multi-family types in specific locations ranging from simple garage apartments, to multi-plexes, to a variety of apartment types. It was further found that these changes could be accomplished with almost imperceptible visual changes in the residential fabric. Indeed when organized around different street types it created an improvement in the residential fabric.**
4) **A more carefully designed and maintained public open space system of streets, sidewalks, parks and squares which are pedestrian oriented.**

It was found that if these principles were applied to half of the station stops on the proposed 10 year LRT implementation plan, half (285,000 people) of the projected metropolitan growth (570,000 people) for the next 25 years could be accommodated by such a development strategy of filling in. Obviously, if these principles were applied to other multi-modal transit nodes the strategy of the filling in would accommodate even more population with great ease. Most importantly, the strategy of filling in was perceived by the local communities as having extremely positive economic, environmental and quality of life impacts on their communitis.

It was further found that from a development perspective LRT alignments on abandoned RR lines make it easier to create pedestrian neighborhoods than when the alignments are located in freeway medians.

C.5.3 **The sixth case study site involved a close working relationship with the Phalen Small Area Plan Task Force. An urban design framework was developed, building on the principles above, with the following, neighborhood specific, highlights:**

1) **The removal of a deteriorating 60's shopping center built on the former Ames Lake wetlands, and recreating a wetlands park as a neighborhood amenity and focus for development, a signature for the neighborhood. The wetland's design is intended to also function as a natural ecological system for cleansing the local storm drainage and run-off.**
2) **Building a neighborhood commercial transit node which balances the needs of pedestrians, cars and transit. The node is carefully positioned to be easily accessible by pedestrians through a revitalized network of neighborhood streets. The commercial area is designed to be compact, pedestrian friendly (including parking structures associated with the transit stop) and is intended to serve the convenience and service needs of the neighborhood.**
3) **Inserting specific neighborhood streets where they do not exist as a focus for rehabing large deteriorating housing blocks, and as the armatures for new diverse housing types.**

4) **Establishing a hierarchy of different street types which act as armatures for all new development and which organize the neighborhood into an understandable whole, giving it a clear sense of place. Each has its own different design guidelines which are to specify the physical requirements for the public open space system including: 1) full pedestrian and bicycle amenities, 2) ecological systems, 3) the public design features of buildings, etc.**

This framework has had a major influence on the final Phalen Village Small Area Plan which is in the process of being formally included in the St. Paul Comprehensive Plan. The framework has had a major influence on the Department of Planning and Economic Development staff and MNDOT. It is perceived as a model for how the investment in strategic public improvements can help revitalize "core" neighborhoods. The PED, DNR and MNDOT staff are actively pursuing implementation of the three major elements of the plan.

C.6. Benefits: The development of alternative design concepts for typical sites on the LRT and freeway systems will provide local MN communities with clear description and representation of alternative choices for the kinds of development they want in their neighborhoods. They will be able to see the design before they happen. It will show local communities the physical models for which the land use guidelines will have been developed.

D. Develop Model Land use/Design Guidelines

D.1. Narrative: From the alternative urban design prototype generated in objective C above, model land use/design guidelines will be prepared. These guidelines will establish the rules to which all development around station stops must conform, mandating the design qualities desired.

D.2. Procedures: Prepare model land use/design guidelines and procedures for development.

D.3. Budget:

	LCMR Funds
a. Amount Budgeted:	$15,300
b. Balance:	-0-

D.4. Timeline for Products/Tasks July 91 Jan 92 June 92 Jan 93 June 93

Prepare preliminary model guidelines	o	x	x		
Prepare final guidelines		o	x	x	

D.5. **Status:**

D.5.1 **As the research work progressed, the separation between Objectives C and D became less clear. The development of urban design prototypes, the articulation of design principles and the development of urban design guidelines evolved in a seamless process. The results are published in the CALA Working Papers, Vol. 1, Nos. 1 and 2. The real value of the work and the guidelines developed can be measured by the fact that two of the case study s (Robbinsdale and Phalen) have produced "real" plans based the guidelines from the research which are now in active implementation. Thus the . /ts have had an**

immediate and concrete impact on two Minnesota commu... More importantly, the policy implications of the research are having a significa... ence on the new Metropolitan Development and Investment Framework currently in preparation by the Metropolitan Council which shall have a long range impact on the region.

D.5.2 **One of the most important findings of the research was the fact that most of the existing zoning regulations and processes do not encourage consideration of the public realm as the focus of design and development. All of the zoning regulations focus on controls for individual pieces of property as isolated events. How each property relates to one another and the public realm (i.e., sidewalks, streets, etc.) is not given appropriate attention. All of the urban design strategies developed in this research depend on seeing the neighborhood as a whole and reaching agreements on specific design strategies. In order for these strategies to be implemented, local communities need to be able to create "special urban design districts" which articulate in detail the design guidelines selected. The two case study sites which are pursuing implementation of the principles development on this research have found two different ways of achieving this end. Robbinsdale has used its Tax Increment Financing capabilities to fund public improvements which implement the guidelines and has developed a detailed plan to show developers what the city wants. The Phalen project has been instrumental in the City of St. Paul pursuing specific legislation allowing the creation of special "design districts" (similar to "historic districts"). This legislation was passed in the 1993 session and the Phalen neighborhood will use this tool to implement the guidelines in their Small Area Plan. The concept of pursing a development and investment strategy which uses the principles of "Filling In" and uses the tools of Tax Increment Financing or special "design districts" for implementation are important models for the future environmental quality of the metropolitan area.**

D.6. Benefits: Good urban design prototypes are not sufficient in themselves to ensure that a community will get the designs it wants. Model land use/design guidelines provide a community with the specific tools to control development which achieves the urban design quality desired.

E. Publication and Presentation of Guidelines

E.1. Narrative: Model land use/urban design guidelines will be published for the sites studied. A presentation for local officials, community and neighborhood groups will be prepared.

E.2. Procedure: Preliminary drafts of the guidelines will be written and include appropriate drawings and diagrams to ensure clear presentation of the guidelines. The presentation for local communities will be in the form of a complete slide show.

E.3. Budget:

	LCMR Funds
a. Amount Budgeted:	$22,500
b. Balance:	-0-

E.4. Timeline for Products/Tasks July 91 Jan 92 June 92 Jan 93 June 93

Prepare written guidelines			o	x	x
Pre information packet			o	x	x

E.5. Status:

E.5.1 The model land use/urban design guidelines have been published in the following three "Working Papers:"

1) "Filling In," Transit and Land use/Urban Design Strategies to Enhance Environmental Quality, CALA Working Papers, Vol. 1 No. 1, February 1992, College of Architecture and Landscape Architecture
2) "Streets, Parks, Houses: Building a Pedestrian Neighborhood," A Case Study Integrating Transit and Land use/Urban Design Strategies, CALA Working Papers, Vol. 1, No. 2, June 1993, College of Architecture and Landscape Architecture
3) "Zoning Is Not Enough," The Need for Specific Urban Design Guidelines: Lessons Learned from the Transit and Land use Urban Design Case Studies," CALA Working Papers, Vol. 1, No. 3, June 1993, College of Architecture and Landscape Architecture.

E.5.2 The findings and results have been disseminated through presentations to: 1) legislative and editorial organizations, 2) professional meetings and conferences, 3) local community and planning groups, 4) and University courses.

Presentations to Legislative and Editorial Organizations:

3/5/93 State of Minnesota House Transportation Committee, Tom Ostoff, Chair. Presentation of findings and principles for consideration in state transportation legislation.

3/10/93 State of Minnesota Senate Transportation Committee, Sandy Pappas, Chair. Presentation of findings and principles for consideration in state transportation legislation.

Fall 1992 StarTribune Editorial Board, Peter McLaughlin, Chair. Presentation of findings and principles to inform editorial opinions.

Major Presentations to Professional Meetings and Conferences:

5/29/92 Integrating Local Development and Transit. A one-day workshop organized by the Metropolitan Council to share ideas, results and methodologies regarding joint transit and planning issues. Other presenters included Natcho Diaz, Metropolitan Council Transportation Planning Director; Ray Harris, local developer; Bill Deblon, Robbinsdale Community Development Director. Attended by over 150 metro area planners, elected officials, developers, architects, landscape architects and interested citizens.

12/15/92 Phalen Village Case Study Public Presentation. A public presentatio of the case study findings for Phalen Village, attended by over 100 people including elected officials, area residents, business owners, city staff from PED, Parks and Rec, Housing, Public Works, University faculty and interested citizens. The presentation was videotaped and broadcast on public access cable television.

2/25/93 Neighborhood Planning in the ISTEA Era: An Emerging Model for Revitalization through Livability, at the 1993 State Bicycle Conference.

Presentation of principles, case studies and implications at a four day conference which included local, state and national presentations of efforts to increase diversity in our transportation network to increase livability. Attended by bike planners and enthusiasts, public officials, city planners, parks and rec officials, architects, landscape architects and interested citizens.

Presentations to Local Community and Planning Groups:

5/91-9/91 Presentations to Robbinsdale staff and consultants, resulting in adoption of principles included in the Downtown Revitalization Plan currently under implementaton.

8/1/91 Presentation of case study findings to BRW staff. BRW has been the lead consulting firm responsible for LRT alignment and station area planning.

9/91 Presentations of case study findings to Bloomington staff, including Greg Ingraham, Planning Director and Gerry Boardman, HRA director.

9/91 Presentation of case study findings to Joan VanHala, Phillips Neighborhood representative.

7/28/92 - 2/23/93 Presentations of principles, case study findings and potentials to Phalen Village Small Area Plan Task Force meetings. This series of meetings was used to apply the principles to Phalen village, seek feedback and refine application of the ideas over time. The Small Area Plan Task Force included neighborhood residents and business owners, developers, district council representatives, city staff and interested citizens.

1/22/93 Presentation of case study findings to Phalen area business owners organizational meeting. Other presenters included Marie Grimm, St. Paul District 2 City Council representative, Allen Torstensen, St. Paul PED city planner, and Pat Finnegan, St. Paul Police Department.

Dissemination Through University Courses:

Fall 1992 Architecture 8254, House into Town. Harrison Fraker and Cass Gilbert Visiting Professor Daniel Solomon, instructors, 6 cr. studio. A design studio based on research findings and using Phalen Village as an area of study.

10/23/92 10/24/92 Phalen Village Design Charrette, in conjunction with Architecture 8254, including University faculty, students and research staff, St. Paul PED staff, Cass Gilbert Visiting Professor Daniel Solomon. An intensive two day effort to outline a vision of Phalen Village and discussio of the ideas involved.

Fall 1992 Guest presentation of project findings in a course offered by the Humphrey Institute of Public Affairs, Greg Ingraham, instructor.

E.6. Benefits: The development of alternative land use/design concepts and guidelines for typical sites on the freeway systems and the proposed LRT system will provide local communities with clear choices for the kind of development they want in their neighborhoods. Through the use of the visual materials developed, the design and environmental consequences of land use decisions will be able to be seen before the decisions are implemented. Clear models for land use/design guidelines will be provided.

IV. Evaluation

For the FY 92-93 biennium, the program can be evaluated on the following criteria: 1) the quality of information generated from the analysis of existing precedents, 2) the quality of urban design prototypes and their ability to address the desired design qualities of local communities, 3) the usefulness of land use/urban design guidelines for application by local communities.

In the long term, the evaluation of this project will depend on whether it has helped local communities make better decisions about how to control development around LRT or "park-and-ride" stations; and whether the new development improves the environmental quality of the neighborhood.

V. Context

A. Our land use and settlement patterns have been shown to be serious contributors to the degradation of our environmental quality. The continued expansion of suburban sprawl contributes to water pollution through excess runoff and other interruptions of natural systems and to air pollution through the traffic congestion that has resulted from these settlement patterns. The kinds of congestion and pollution problems facing Los Angeles today are a likely reality for all our metropolitan areas in the future if reasonable design alternatives are not found. These problems have occurred because the interrelation between land use and transportation issues have not been considered together.

B. One alternative to the negative impact of sprawl is to develop innovative urban design prototypes which take advantage of new metropolitan transit systems like LRT or park-and-ride systems. The purpose of these innovative urban design alternatives is to intensify development around station stops, providing a pedestrian environment with access to most basic services, thus slowing sprawl and providing an alternative living environment to one that is dependent on the car.

Recently, the "Pedestrian Pocket" urban design concept has received national publicity because it provides an exciting alternative to sprawl. This project proposes to test the urban design concepts of the "Pedestrian Pocket" for typical sites in the Twin Cities metro area; and to extend its principles by developing land use guidelines which would control and enable such developments to happen in local communities. This project joins land use/urban design considerations with LRT and transportation planning issues rather than keeping them separate under the current planning structure.

C. The Program Manager has played an important role in developing the "Pedestrian Pocket" concept without LCMR funds. While this project will allow the testing of several typical sites in the metropolitan area, it may not be able to examine all the important conditions. Thus, funding beyond the FY 92-93 biennium may be sought from the LCMR.

D. Not applicable

E. Biennial Budget System Program Title and Budget: Not applicable at this time.

VI. Qualifications

1. Program Manager

Harrison Fraker
Professor and Dean
College of Architecture and Landscape Architecture
University of Minnesota
89 Church St. S.E.
Minneapolis, MN 55455

MFA in Architecture and Urban Planning, Princeton University, 1966
Thesis Title: "Princeton - Past, Present, Future Urban Design Alternatives"
BA in Architecture, Princeton University, 1964

In addition to his thesis work, the program manager has been a practicing professional in architecture and urban design for twenty years and recently (in last three years) has devoted significant scholarship to the field. He is a co-author of the Pedestrian Pocket, Princeton Architectural Press, 1989, on which much of the proposed project is based.

2. Major Cooperators

A. **Professor William Morrish**
Associate Professor and Director, Design Center for American Urban Landscape

M.Arch in Urban Design, Harvard University, 1978
B.Arch., University of California, Berkeley, 1971

Professor Morrish has taught and published extensively in the fields of architecture, urban design, and related topics. As a practicing architect and consultant, he was a co-founder of the urban design firm CITYWEST, which specializes in the cultural, aesthetic and economic development of cities. Under his leadership, the Design Center for American Urban Landscape is becoming a leading research and analysis center on issues of urban design.

B. **Professor Barbara Lukermann**
Senior Fellow, Hubert H. Humphrey Institute of Public Affairs and
Research Associate, Center for Urban and Regional Affairs

M.A. Geography, University of Minnesota, 1954
B.A. Geography, University of Cambridge England, 1952

Professor Lukermann's research and teaching interests focus on the built environment and the role of the public sector in intervening in the market. Her interests bring a larger scale context to how cities and urban space/land uses evolve in response to shifting technologies and accessibility. Recent research has been on demographic forces, aging of the housing stock of the state and the pressures to rebuild or maintain neighborhood vitality.

C. **Professor Thomas Anding**
Associate Director, Center for Urban and Regional Affairs

Professor Anding's fields of specialization include the environment, economic development, and land use planning. He has previously served as executive director and urban development director with the Upper Midwest Research and Development Council. With a strong sub-interest in Native American issues, Professor Anding is currently directing a multi-year research effort looking at transportation problems on remote Indian reservations. He has also completed research into water-related environmental and agricultural problems in the Duschee Creek watershed in Minnesota.

D. **Ms. Karen M. Lyons**
Transportation Planner, Metropolitan Systems Division, Metropolitan Council

B.A. Urban Studies, University of Minnesota, Duluth, 1982
The following responsibilities which Ms. Lyon's fulfills at the Metropolitan Council demonstrate her qualifications as a cooperator: Eight years as a planner, with emphasis on transit. Responsibilities have required close working relationships with the Regional Transit Board, Minnesota Department of Transportation, County Regional Rail Authorities, and local units of government.

E. **Mr. Richard Thompson**
Senior Planner, Comprehensive Planning and Local Assistance Division, Metropolitan Council

M.S. Urban and Regional Planning, University of Wisconsin, 1972
B.A. Political Science, College of St. Thomas, 1968

The following responsibilities which Mr. Thompson fulfills at the Metropolitan Council demonstrate his qualifications as a cooperator: Currently review plan amendments; prepare reports such as Study of Regional Business Concentrations and assist on reports such as LRT/Land Use Coordination Report; coordinate Council role in planning for Mississippi National River and Recreation Area; oversee Mississippi Critical Areas responsibility for the Council.

VII. Reporting Requirements

Semiannual status reports will be submitted not later than Jan. 1, 1992; July 1, 1992; Jan. 1, 1993; and a final status report by June 30, 1993.