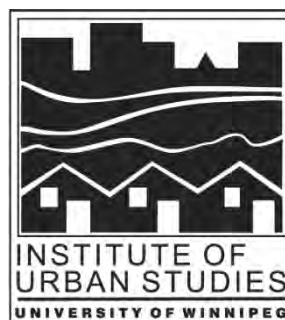
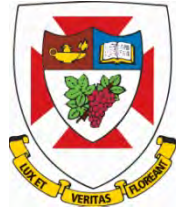
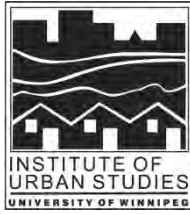


An Evaluation of the Limited Repair Program of the Winnipeg Home Improvement Project by the Institute of Urban Studies

**by J. Barker, Carl Blancher, and Don Epstein
1973**

The Institute of Urban Studies





THE UNIVERSITY OF
WINNIPEG

FOR INFORMATION:

The Institute of Urban Studies

The University of Winnipeg
599 Portage Avenue, Winnipeg
phone: 204.982.1140
fax: 204.943.4695
general email: ius@uwinnipeg.ca

Mailing Address:

The Institute of Urban Studies

The University of Winnipeg
515 Portage Avenue
Winnipeg, Manitoba, R3B 2E9

**AN EVALUATION OF THE LIMITED REPAIR PROGRAM OF THE WINNIPEG HOME
IMPROVEMENT PROJECT BY THE INSTITUTE OF URBAN STUDIES**

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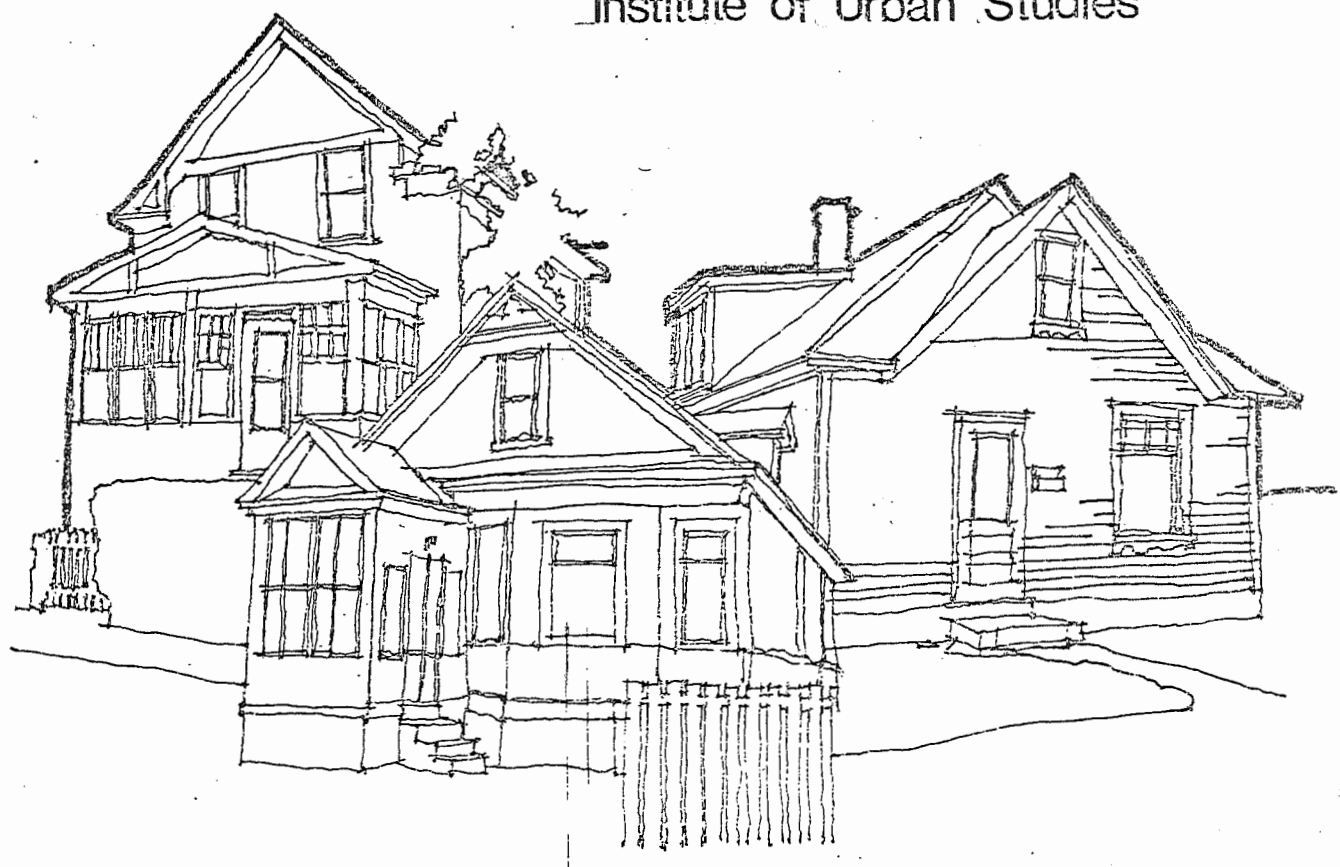
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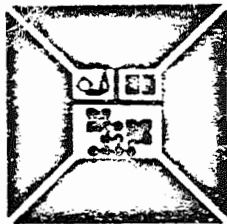
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THE UNIVERSITY OF WINNIPEG

WINNIPEG, MANITOBA
R3B 2E9

INSTITUTE OF URBAN STUDIES
DIRECTOR - DR. LLOYD AXWORTHY
TELEPHONE - 786-7811 - AFTER HOURS - 775-6802

November 22, 1973.

Board of Directors,
Winnipeg Home Improvement Project,
357 Bannatyne Avenue,
WINNIPEG, Manitoba.

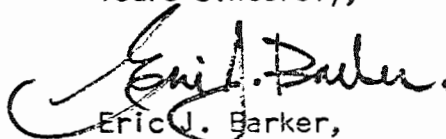
Dear Sirs,

We are pleased to present the evaluation of the Limited Repair Program of the Winnipeg Home Improvement Project as commissioned by the board in its meeting of March 30, 1973.

The intent of the evaluation was threefold. First, it was the intent of the evaluation to examine to what extent the original goals of the Limited Repair Program of WHIP, have been met. Secondly, the intent was to understand the relationships between resident characteristics, their home environment, and the repairs that were most important to them. Finally, the intent was to make recommendations that would help to improve WHIP's performance and help plan future rehabilitation programs.

We hope that you will find this evaluation valuable in planning the future direction of WHIP.

Yours sincerely,


Eric J. Barker,
Research Associate.



Carl Blanchaer,
Research Assistant.

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Appreciation is expressed to the members of the staff of the Winnipeg Home Improvement Project, residents of repaired homes, The City of Winnipeg Planning Department, Manitoba Housing and Renewal Corporation, the Appraisal Department of the Regional Office of Central Mortgage and Housing Corporation, Johner's Woodworking Ltd., and various other residential appraisers and private contractors, all of whom have assisted in making this report possible. In addition, we must extend our sincere thanks for the patience, precision and speed of our secretarial staff, Lorraine Good and Irene Kahljan, whose unremitting effort has produced this report.

INTRODUCTION

In early 1972, Neighbourhood Service Centres, a government supported social services agency, sponsored a project under the Local Initiatives Program (LIP) called the Logan Heights Environmental Committee. The objective of the committee was to provide employment and improve poor housing in low income, inner city areas through work in house repair.

At the same time and for the same reason, the Institute of Urban Studies, an urban research and resource centre of the University of Winnipeg, sponsored People's Housing Rehabilitation and Repair Inc.

The services of both projects were in great demand and it became apparent that small scale repairs were sorely needed in many houses. The free labour offered by both projects acted as an incentive for area residents by cutting the cost of repairs in half or by allowing twice as much work to be done for the same cost. But the projects could not continue to operate on short term LIP funding. Both projects investigated the potential for long term funding and as a result negotiations began with the Provincial Department of Health and Social Development for "work activity" funding. This is a federal/provincial program whose objective is to upgrade the social and vocational skills of unemployable/unemployed persons through on-the-job training.

The Winnipeg Home Improvement Project

These negotiations proved successful and on November 1, 1972, the Winnipeg Home Improvement Project (WHIP) was formed through a merger of the majority of the members of the two LIP projects. As such, it became a work activity project sponsored by the Provincial Department of Health and Social Development with a yearly budget of \$324,800 throughout a three year period. The funds are provided on a 50/50 basis by both the provincial and federal governments through the Canada Assistance Plan.

One of the basic goals of WHIP is to prepare an individual with a history of social/employment problems for more specialized training or employment. At the same time, it is intended that WHIP provide a service to persons of lower income living in inner city communities. This is achieved through a program of small scale house repairs, which provide both a community service and an opportunity for on-the-job vocational training. This program is integrated with other academic and social development programs within the project. In this way, an attempt is made to deal with the "whole" person.

The project presently has a complement of fifty-six participants with the eventual goal of working with one hundred men and women. It is directed at a policy level by a ten man Board of Directors; four are participants with the remaining six drawn from business, government and university. WHIP is administered at an operational level by a staff of sixteen people consisting of an Executive Officer, Operations Coordinator, Education Coordinator, Social Development Programmers, Training Foremen and clerical staff. The participants divide their time between vocational training in the houses or project workshop, academic upgrading in classroom and remedial training library and counselling with social development

personnel. In addition, they take part in the decision-making on the project at both the operational and board levels. But, the participants spend the majority of their time in the vocational training program.

Crews of approximately ten participants are assigned to one of six job training foremen. Each foreman is responsible for two to three jobs to which he assigns an appropriate job crew of three to four participants. The workshop is used by the foremen and crew to fabricate cupboard/counter/cabinet units required in certain jobs. They are then transported to the site and installed in the house.

The operational method is similar to previous LIP projects in that the labour cost is underwritten by the government and offered free of charge to the resident. The resident is obliged to purchase and supply the material.

The process of a repair usually begins with the resident telephoning WHIP and a job application being sent to the resident. Once the application has been returned to WHIP, a participant evaluator then visits the resident to determine if, in fact, the job should be done. The basic criteria for job approval is that the resident be of low income and that the repair work appears to be a priority in the house. The intent is that only houses which would otherwise not be repaired be approved. The evaluation form, as completed by the participant evaluator, is submitted to the Operations Coordinator for a decision and a letter is sent to the residents informing them of the decision.

If accepted, a month prior to the anticipated commencement of the job a foreman and participant visit the house and assess the nature

and size of the job, giving the resident a list of required materials for the job. At the same time a liability release and job description is signed with the resident.

It is a policy of WHIP not to become involved in the purchase or transport of materials. As such, a week prior to job commencement, the resident is requested to purchase the material. The crew then begins work, meeting each morning at the site and cleaning up every evening before quitting time. Once the job is completed, a release form is signed by the resident agreeing that the job has been completed satisfactorily. The final phase in this process is an interview with the resident by a project recorder two weeks to a month after completion to assess resident satisfaction.

Context

The WHIP offices are located in an inner city area immediately south of the CPR yards and west of Main Street. In the main, it operates in this and other similar inner city areas of Winnipeg, characterized by:

- two storey, wood frame dwellings, approximately 20' x 40', which are sixty to eighty years old and located on small lots.
- housing which is deteriorating because of worn out material, crumbling foundations, lack of maintenance, outdated electrical, plumbing/heating systems and for many other reasons.

- a significant number of houses owned by absentee landlords¹ using the houses as a cheap investment and who are loath to reduce profits by doing the necessary repairs.
- houses whose interiors are often small and poorly organized and not suitably geared to the needs of the occupants.
- a significant number of houses which are sound enough to justify repair work and whose life span can be extended.²
- rising house prices which when combined with the rising costs of renovation work, often preclude economically the extensive repair of an increasing number of houses.
- a heterogeneous population of lower than average income and with a poor employment history and potential.³
- a mobile population using the area as transitional accommodation.

Extensive Renovation

Within this context, government has attempted to prevent further deterioration and significantly increase the life span of older houses through a program of total or extensive renovation. The rationale for this program is that:

1. Grace Parasiuk, Satisfaction Survey on Roosevelt Park. Institute of Urban Studies, 1969.
2. Eric J. Barker, A Report on the Rehabilitation of Older Houses in a Lower Income, Inner City District. Institute of Urban Studies, June 1971.
3. Community Welfare Planning Council, Social Service Audit. 1969.

- it is cheaper in the long run than allowing the house to deteriorate to the point of demolition and replacement by new housing.
- it is the only way to prevent the deterioration of the house and to increase its life span.
- it will avoid the socially and economically undesirable consequences of wholesale demolition and relocation.
- it provides housing with more space than could be provided in a new house, for the same cost.
- it will strengthen the sense of community and desire of residents to remain and invest in the area, as well as encourage outside investment.

Extensive renovation means the complete repair or renewal of all parts of a house -- foundations, walls, floors, roof, and electrical/plumbing/heating systems, as well as the internal reorganization of the spaces. In doing this work, it is necessary to upgrade the house to present day municipal codes and CMHC standards.

Characteristics of this approach are:

- an initial assessment of the nature and extent of repair work and a determination of the feasibility of repairs.
- the purchase of property and relocation of the occupants to alternate accommodation.
- the preparation of working drawings and specifications for the work and tendering to private contractors on either a stipulated

sum⁴ or cost-plus contract⁵.

- the high cost and long duration of repairs because of demolition work required, the time for fitting new materials to old and the "unknown" problems encountered.
- the extensive supervision time required by contractor and sponsor.
- the repair of a small number of houses because of the high cost of repairs and acquisition.
- the provision of an excellent living environment.

Limited Repair

From the previous discussion, it is clear that some inner city areas have poor housing occupied by a diverse population of lower income persons some of whom have poor employment and social histories. The extensive renovation program, which attempts to deal with some of these problems, is a lengthy, costly program affecting a low percentage of houses whose occupants are relocated.

The limited repair program is an alternate approach to the physical and social problems of inner city areas. Limited repair simply means the repair of minor problems in and around the house.

-
4. A stipulated sum contract specifies a total cost for a job as negotiated between the contractor and the sponsor.
 5. A cost-plus contract specifies merely an hourly rate for work to be done with some time limits attached. The client is charged merely for time spent with no guarantee of total cost.

WHIP's basic contention was that, through a limited repair program, it would satisfy its general goal -- to improve the poor housing stock of low income persons while providing training and employment opportunities for persons living in the inner city.

Goals

The specific goals of WHIP's limited repair program are:

1. To employ socially disadvantaged and unskilled persons in a program of integrated academic, vocational and social development.⁶
 2. To rehabilitate houses to the limited extent that, given the same time and government expenditure, more houses are repaired than would be by an extensive rehabilitation program.
 3. To rehabilitate inner city houses in poor condition at a cost that is a reasonable investment in terms of increased property value and extended life expectancy of those houses.
 4. To rehabilitate both tenant and owner occupied houses for low income persons at a cost they can afford.
 5. To rehabilitate houses without relocating the occupant and with a minimum of disturbance to the occupant.
-
6. The degree to which this goal is being met is examined in WHIP Work Activity Evaluative Study, September 1973.
Division of Research, Planning and Program Development,
Manitoba Department of Health and Social Development.

6. To improve the immediate living environment by doing repairs determined important by the occupants and to their satisfaction.

Evaluation

During the three month period, April 15 to July 15, 1973, an evaluative study of WHIP's limited repair program was undertaken by the Institute of Urban Studies at the request of WHIP's board of directors.⁷

The intent of this evaluation is:

1. To examine the degree to which the specific goals of WHIP's house repair program, stated above, are being met.
2. To examine any significant relationships that may exist between various characteristics of residents, their home environments, and their repair needs.
3. To offer recommendations to improve the performance of WHIP and to aid in the future planning of rehabilitation programs.

-
7. At the same time a work activity evaluation (see WHIP Work Activity Evaluative Study, September 1973) has been done by the Division of Research, Planning and Program Development, and a management study (See Project #3-33-7A, WHIP Administrative Study, October 1973) has been done by the Special Studies Group. Both research groups are adjuncts of the Manitoba Department of Health and Social Development.

FINDINGS

Comparison of Extensive Renovation and Limited Repair by Job Time and Expenditure

The impact upon a community of either a limited repair program or an extensive renovation program can be described in terms of the amount of impact on single individuals and the number of individuals affected. One might say that the impact upon individuals of an extensive renovation program would seem to be great, because such a program rehabilitates homes to the extent that they in many respects resemble new homes. Limited repair does not rehabilitate homes to this extent.

The impact of limited repair, on the other hand, is that it can repair houses more quickly and with less money than extensive renovation, thus having impact on more residents. To see if in fact WHIP is doing this, information was gathered on the repair time and government expenditure per house by each rehabilitation technique.

Time Per House: An average work time on site for extensive renovation of two houses in 1971 was calculated from information provided by the City of Winnipeg Planning Department and

for renovation of seven other houses in 1972 by the Manitoba Housing and Renewal Corporation (MHRC). The average work time on site for these renovation jobs was 55 days. In addition, the preparatory time for renovation, that is house selection, assessment, sale and redesign, was on the average 4 days. Therefore, the average total time per house, extensively renovated, was 59 days.

An average work time on site for limited repair as done by WHIP was obtained from the job files of 35 houses. The average work time for these jobs was 12 days. (It should be recalled, of course, that this average "work time on site" was inclusive of training time.) In WHIP's case, preparatory time includes the processing of applications, the interviewing of residents, and the estimating of materials required for repairs. On an average, preparatory time is one day. Therefore, the average total time for limited repairs by WHIP was 13 days.

In the time it takes to extensively renovate one house, WHIP does limited repairs in 4.5 houses (i.e. $59 \text{ days} / 13 \text{ days} = 4.5$). That is, 4.5 families had limited improvements done by WHIP in the time that one family had its house totally renovated. Also, the family that has its house extensively renovated must relocate for 4.5 times as long as a limited repair family, who while remaining in its home, must contend with some degree of disturbance to its daily routine. Therefore WHIP services more people with less inconvenience in a given time than does extensive renovation.

Government Expenditure Per House: The components of expenditure are different for WHIP (labour, overhead, and administration) and extensive renovation (government staff, land purchase,

labour, materials, overhead, administration, and profit).

Construction and land acquisition costs were obtained and averaged for seven houses extensively renovated by MHRC in 1972. An average cost for preparatory work was also obtained. Computed in terms of 1973 prices, the resulting average total cost for an extensively renovated house was \$33,800. Of the total, \$8,700 was the purchase cost of land and building, and \$25,100 represented the actual cost of renovation.

In arriving at an average total cost per house of repairs done by WHIP, it was necessary to isolate the costs related only to home repair, as opposed to those related to WHIP's educational program. This was done with information provided by WHIP's bookkeepers.⁸ The average cost of limited repair per house

8. Costs of the educational program were obtained separately for overhead, administrative salaries, and participant salaries. To obtain the repair overhead, the cost of educational supplies and the educational share of rent and utilities were subtracted from total overhead. The educational share of rent and utilities was calculated on the basis of the amount of floor space in the office occupied by educational facilities. It was found that 30% of overhead costs were educational costs. To obtain the amount of administrative costs related to repairs, the salaries of the educational coordinator, the social programmer, and one secretary were subtracted from total administrative salaries. It was found that 18.2% of administrative costs were strictly educational costs. Finally, to obtain the amount of participant salaries devoted to repairs, the participants' educational time was multiplied by their hourly wage, and the result was subtracted from total participant salaries. As a result 6.3% of participant salaries were devoted to education. These figures were obtained during the commencement of the classroom program. At the present time participant salaries devoted to education would be greater.

in a five week period in the summer of 1973 was \$1,730.⁹

Therefore, for the expense of one totally renovated house, over 19 houses (i.e. $\$33,800/\$1,730 = 19.3$) had limited repairs. Again, this means that 19.3 families are affected for every one family whose home is extensively renovated.

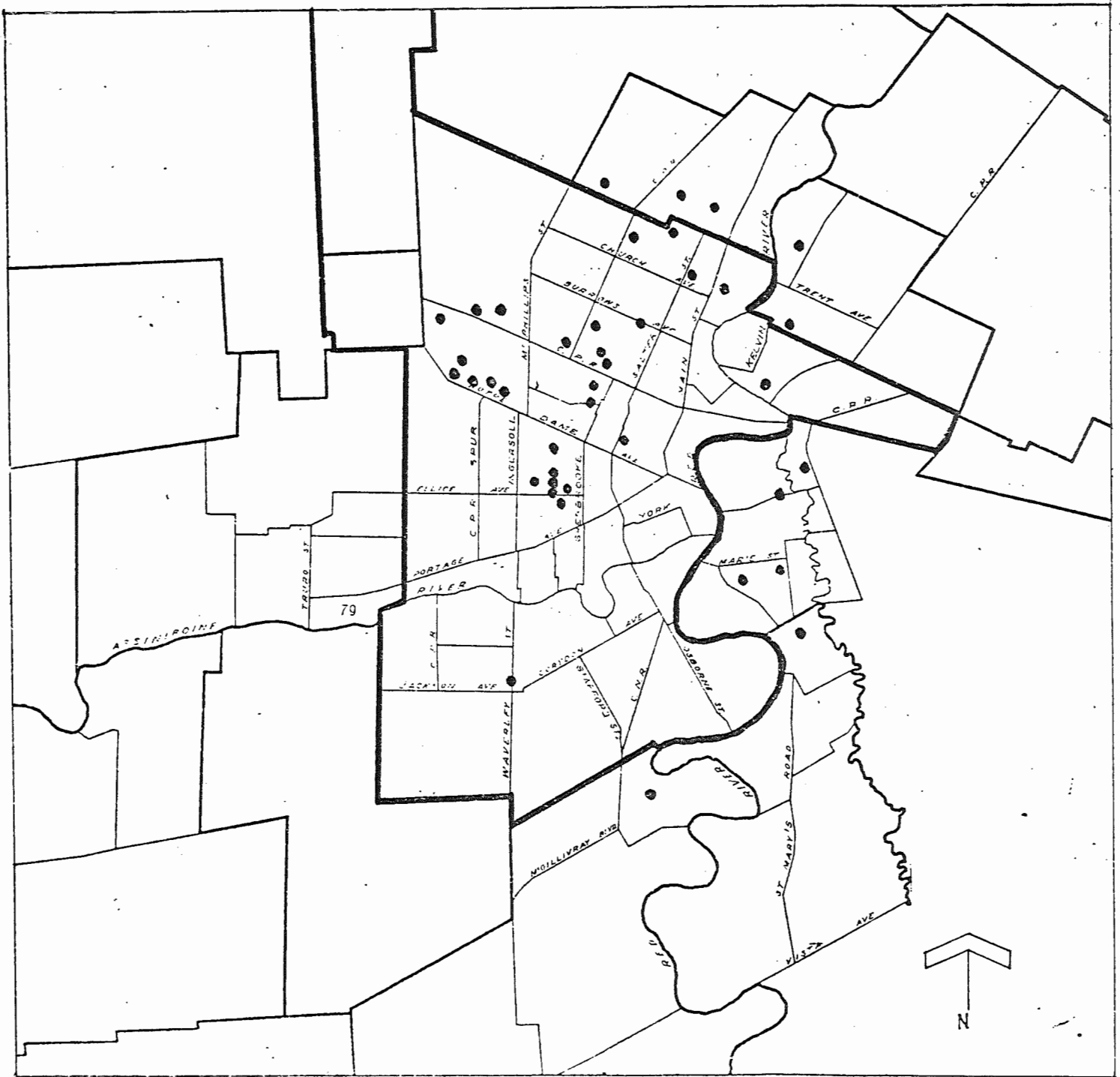
In summary, then, WHIP's limited repair-manpower training program effects nearly five times as many houses and families in the time required to renovate one house. Moreover, for the same government expenditure, WHIP effects nearly twenty times as many houses and families as extensive renovation.

Location of Limited Repair Homes

The area comprising the old city of Winnipeg is used as the definition of the inner city. Of 39 residents served by WHIP, 27 (69%) lived in the inner city (see Figure 1). Therefore while WHIP is giving priority to inner city houses, a substantial number of houses outside the inner city have been repaired. Because of the large amount of poor housing requiring repair in the inner city, it is recommended that future work for WHIP be restricted to the inner city (see Summary and Recommendations).

9. The number of houses repaired in the given time was obtained in this way: the evaluator, using on going jobs and data in job description forms, estimated the number of houses repaired in that time. Included in the estimate were proportions of work done on jobs that began before or finished after the five week target period. The result was corroborated by the average time per house found in the job files.

Figure 1. The Location of 39 Houses Repaired by WHIP.



- Repaired House
- Boundary of the Inner City

Condition of Limited Repair Houses

The condition of houses repaired by WHIP was recorded on a general information sheet subsequent to interviews with 39 residents for whom WHIP has done repairs. Houses were rated as being in poor, average, or good condition. Rating was done subjectively by the evaluator on the basis of apparent deterioration of the house.

77% of the houses appeared to be in average to good condition while 23% were in poor condition. The repair of a large number of houses in better than poor condition is in part due to the fact that, because WHIP needed work, it did not initially restrict itself to repair of houses in poor condition and accepted almost all applications. However, now WHIP has a waiting list of approximately 150 residents, and the selection process must be improved in order to meet the original goal of repairing houses in poor condition.

Limited Repair as Investment

It might be said that the increase in property value of a house is limited by factors such as its age, condition, and location. Therefore it must be ensured that an expenditure of money for repairs constitutes a reasonable investment.

Limited repairs may constitute a reasonable investment in that they can influence the change of property value of a house. Residential home appraisers maintain that the expenditure on limited repairs should not exceed 15% of the anticipated market value of the house after repairs. Further-

more, these repairs must be readily visible upon inspection of the house.¹⁰

The average expenditure for a house repaired by WHIP was \$1,883, inclusive of material, labour, overhead, and administration costs. If this average expenditure represents the maximum 15% of the anticipated new market value, in order that the expenditure not represent an over investment, the average anticipated market value for houses repaired by WHIP would be at least \$12,500. According to a CMHC residential appraiser, the range of average inner city property values is \$15,000 to \$18,000. Therefore, in general, the expenditure of money per house repaired by WHIP is well within the range of reasonable investment.

Furthermore, limited repairs may be an investment in that they may extend the life expectancy of a house. Life expectancy is generally determined by the condition of a house's services, foundation, structure, and roof. Extensive renovation work is largely devoted to these areas. However, certain limited repairs may also be very important to these basic components of life expectancy. For example, panelling, framing for a new partition, installing new floor sheathing,

10. The amount of influence that repairs have on property value, changes from year to year. For example, before 1970 repairs had no influence on property value; they only had an influence upon the attractiveness for sale of a house.

and dry walling,¹¹ may all provide added rigidity to the structure of a house. Regular reshingling of a roof and exterior painting may prevent deterioration of the roof and structure of a house.

However, because more examples were not found the only conclusion can be to recommend further research into the dynamics of aging houses.

There are conditions in which an expenditure on limited repairs is a poor investment. Residential home appraisers maintain that limited repairs must be visible in order to constitute a good investment. Also, an expenditure on repairs is a poor investment if the life of repairs is decreased by the age or condition of a house. For example the patching of a crack in a wall that was caused by a shifting house structure is waste investment: the crack will more than likely return. Eleven of an approximate total of eighty-nine houses repaired by the previous "People's Housing and Rehabilitation Inc.", were visited. These houses were chosen randomly and all had had repairs done more than a year ago. Two of the eleven houses visited had signs of repair deterioration. Questioning of the residents revealed that the causes of deterioration had not initially been remedied; only their symptoms

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11. One example of drywall adding to the rigidity of a house structure was found in eleven houses repaired by People's Housing and Rehabilitation Inc. Drywalling had been done in the kitchen and a connected lean-to, which was open to the kitchen for its full width with no structural partition. Because a lean-to does not have a foundation, differential shifting often occurs between itself and the house. In this case no such signs were visible.

had been repaired.

Repair of Owner-Occupied and Tenant-Occupied Houses

Presently WHIP as a policy only repairs owner-occupied dwellings. Repair of tenant-occupied dwelling has been temporarily suspended until an agreement between WHIP and landlords can be designed.

However it is clear that tenant-occupied dwellings require at least as much repair and rehabilitation attention as owner-occupied dwellings.

Table 1. Percent of Low Income Owner and Tenant Occupied Dwellings in Need of Major and Minor Repairs, 1961.

	Major Repair*	Minor Repair
Owner Occupied	94.8	89.5
Tenant Occupied	95.2	91.6

Source: DBS-CAT. 98-505 "Incomes of Households" (Ottawa, DBS, 1965) Tables E-3, E-4, E-7, and E-8.

* Houses were defined as in need of major repair if they had one of the following:

- a) sagging or crumbling foundation
- b) faulty roof or chimney
- c) rotting door, sills, or window frames
- d) interior badly in need of repairs.

Although these percentages are now considered over estimates, they still indicate the very large number of both owner and tenant occupied dwellings that require rehabilitation.

Indeed, because many more low income families rent accommodation than higher income families, probably greater emphasis should be placed on the repair of tenant-occupied dwellings.

One concern is that maintenance of dwellings by tenants may often be poorer than that of owner-occupied dwellings. Unfortunately, no data on this question was available.

The major difficulty and policy objection to this approach, however, is that assisted repair of tenant-occupied dwellings tends to serve, in effect, as a subsidy to the landlord and due to the subsequent increase in rent, adversely affects the economic position of low income tenants. With the aid of legal counsel, WHIP is currently attempting to design a contractual agreement between itself and a landlord client to control rent increases subsequent to repairs.

Income of Residents in Limited Repair Homes

Low income people are defined as those people whose incomes fall in the bottom two quintiles of income distribution. The low income ceiling in the 1966 census, was \$6,000 for families, and \$2,000 for unattached individuals. In 1969 preliminary estimates from DBS surveys indicate that \$7,000 was the low income ceiling for families.¹²

12. Michael Dennis and Susan Fish, Programs in Search of a Policy; Low Income Housing in Canada. Hakkert, Toronto, 1972. p. 37.

Incomes were obtained for only 12 of 51 residents serviced by WHIP before July 15. Eleven of the twelve residents had incomes below the 1967 ceiling. The one resident that had an income above, was an unattached individual. Therefore, from the available sample, nearly all residents served by WHIP had low incomes.

However, there was an extremely high refusal rate on the income question in the interview situation. All 12 of 51 residents that gave information on their income did so before repairs were done. This suggests that in future this information always be obtained before repairs are done (see Summary and Recommendations). Pursuit of information on residents' incomes in future is essential, in that the present sample is not necessarily representative of all residents serviced by WHIP.

Cost of Limited Repairs to Residents

WHIP's practice has been to require the residents of limited repair homes to pay only for materials.

Residents were asked after repairs had been completed whether of not they could afford the cost of materials. A large majority of residents considered the cost of materials not to have been a problem.

Table 2. Total Low Income Family Expenditure, and Expenditure Devoted to Repairs of Owner-Occupied Dwellings, 1969.

	Income Classes					
	All Classes	Under \$3,000	\$3,000-\$3,999	\$4,000-\$4,999	\$5,000-\$5,999	\$6,000-\$6,999
Total Yearly Expenditure (dollars)	\$8,161	\$2,579	\$4,085	\$5,112	\$5,974	\$7,009
% of Total Expenditure Devoted to Repairs	9.7	9.1	10.2	8.4	8.4	8.4
Expenditure on Repairs (dollars)	\$ 794	\$ 235	\$ 417	\$ 455	\$ 502	\$ 590

Source: DBS, "Family Expenditure in Canada", vol. 1, 1969, p. 66 and p. 156.

Table 2 seems to corroborate the fact that low income people can afford a repair expenditure of \$153. This is not surprising, in that residents determine the amount of work in their homes done by WHIP. However this information does serve as a check on foremen's capabilities in estimating the amounts of work necessary, including unforeseen problems. But more important, this information shows that residents can get more repairs for their money because of WHIP. That is, the total cost of repairs whose material cost was \$153, if done by a private contractor, might very well exceed the average expenditure on repairs for many low income people. To be able to do more repairs per house is valuable, in light of the large number of low income people living in poor houses requiring many repairs.

Resident Disturbance Caused by Limited Repairs

Residents were asked if any disturbance to their daily life was caused by having repairs done. Thirty-four of thirty-nine residents were interviewed after repairs were completed. 25 of 34 residents considered that there had been no disturbance to their daily life during repairs.

Most of the nine residents that considered that there had been a disturbance complained about the time it took to do repairs. There appeared to be a correlation between an increase in these complaints and the commencement of academic upgrading for WHIP participants. That is, the duration of work in a house increased because some participants were absent for part of each week. Even residents who considered the repairs no disturbance, commented on the unexplained absence of participants from their homes during the work. Therefore, even though in the majority of cases disturbance was tolerated by residents, the time that it takes to do repairs seems to be an increasingly important problem. A remedy for this would be a greater separation of academic and repair activities (see Summary and Recommendations).

Residents' Repair Needs and Resident Satisfaction

In order to evaluate WHIP's success in satisfying resident repair needs, the following descriptions of repairs done, resident satisfaction, and residents' reasons for repairs, are provided.

Most of the information for the following results was collected using several techniques:

1. A semi-structured interview¹³
2. A questionnaire filled out by residents, rating the rooms of their home in terms of qualitative characteristics.
3. A general information sheet filled out by the interviewer.

In all, thirty-nine residents were interviewed of a total of fifty-one residents that had had repairs begun after November 1, 1972 and completed before July 15, 1973. Although the above techniques were designed for interviews before and after repairs were done, only four of thirty-nine residents were actually interviewed both before and after repairs were done.¹⁴

Repairs Done: A list of 64 repairs done was obtained in interviews with 39 residents serviced by WHIP. The frequency with which repairs occurred is shown in table 3.

-
13. Usually, a participant recorder visits residents after repairs have been completed, to ask about satisfaction to repairs. During the evaluation period, this normal activity was suspended so that only the evaluator visited residents after repairs had been completed.
 14. This was a result of a number of factors. First of all, a below average number of houses were repaired during the evaluation period. This was due in part to the fact that repairs in several houses during this time were extensive and time consuming. Also during this period considerable time and manpower was used in the renovation of the WHIP offices. Secondly, because of poor organization in WHIP, the evaluator was not informed about the commencement of repairs in a number of houses.

**Table 3. Frequency of Occurrence of Repairs Done by WHIP
for 39 Residents**

<u>Repairs Done</u>	<u>Number of Times They Occured</u>
A. Interior	53
1. Painting	16
2. Installing flooring	10
3. Wood panelling	4
4. Drywalling and taping	4
5. Installing doors and frames	3
6. Wallpapering	2
7. Installing glazing	2
8. Installing carpet	2
9. Patching basement flooring	2
10. Roughing in rooms	2
11. Patching walls and ceiling	1
12. Installing ceiling tile	1
13. Installing countertop	1
14. Installing shower tile and bathtub grab-bar	1
15. Resetting door hinges	1
16. Installing cabinet doors	1
B. Exterior	11
1. Reroofing	3
2. Fencing	3
3. Removing old and installing new wood steps	2
4. Painting	1
5. Building paper underlay and wire lathe for stucco	1
6. Repairing garage door	1

By far the most frequently performed repairs were interior painting and the installation of flooring. Also interior repairs were performed much more frequently than exterior repairs. This might be in large part due to the fact that WHIP only does exterior repairs in warm weather and therefore had only begun this work shortly before the expiry date of the evaluation period.

Resident Satisfaction: A description of resident satisfaction to repairs done was to be obtained through the use of a questionnaire in which residents rated the rooms in which repairs were done as to certain qualitative characteristics. It was intended that the questionnaire be used in interviews before and after repairs were done. It was felt that this method would be preferable to that of directly questioning residents about their satisfaction, because residents might hesitate to criticize free assistance given to them.¹⁵ However, because of the limited opportunity to obtain before and after repair interviews, the room rating method could not be used. Instead a description of satisfaction was obtained from answers to questions concerning what differences the repairs had made and what residents considered the quality of repairs to be. Although this method also attempts to find out about satisfaction in a somewhat indirect way, it was felt that the results might not be as representative of resident satisfaction as would results from the former method.

15. Evidence of these feelings was found. Those residents that did express dissatisfaction in most cases qualified their dissatisfaction with comments such as, "The best bunch of boys I could have hoped for!", or "The supervisor did his best". In the same way, residents that expressed satisfaction might have withheld comments of minor dissatisfaction.

It was found that in 51 of 64 (80%) instances in which repairs had been done, residents expressed no dissatisfaction. In the 13 instances of dissatisfaction, the major reason was the poor quality of work ("The doors still stick!").

Corroboration of these results was found in the number of major repair needs that residents expressed during interviews. By major repairs is meant those repairs which would require extensive work on the structure or basic services of a house; in other words, major repairs are those beyond the scope of WHIP. Residents were able to describe major repair needs in answer to an open-ended question in the interview. They were also asked specifically about problems with plumbing, heating, and electrical systems, the structure of the house, and its room arrangement.

Of the total number of repair needs expressed by 39 residents, only 11.9% were major repairs. This result is partly a function of the fact that half the homes in the sample were in average or good condition. The result is also a function of the fact that some residents were told by telephone that WHIP does not do major repairs. An approximate estimate of the number of residents discouraged in this way is one out of every ten. Therefore although major repairs are more important than represented here, limited repairs could be estimated to occupy from 50% to 75% of all repair needs.

There are two important conclusions from the above discussion. First of all, WHIP is generally satisfying residents' stated overall repair needs. Secondly, limited repairs are important to people. Only 5 of 39 residents considered major repairs to be most important. (See Most Important Repair Needs).

Due to the limitations of our data, though, it is not possible to make definitive statements about the relative importance of limited and major repairs to inner city residents in general. The data only suggest that limited repairs are important to residents.

Satisfaction to repairs themselves is only one aspect of overall resident satisfaction. Another aspect is the disturbance of daily life caused by repairs (see Resident Disturbance Caused by Limited Repairs). Still another aspect of resident satisfaction is the relationship of residents to the work crew. All but three residents when questioned as to whether or not they found WHIP participants cooperative said yes. This is interesting in light of the fact that some of these residents were dissatisfied with the actual repairs. Although this in part may indicate residents' hesitation to express dissatisfaction, it also indicates the success of WHIP's participants in their use of certain social skills.

Reasons for Repairs: Residents' reasons for having repairs done were obtained from answers to an open-ended question in the interviews with 39 residents. For the total sample reasons related to:

- Cleanliness - "We'd clean it (living room) up spotless, and dust would be flying all over by the afternoon."
- Appearance - "I was fed up looking at them (the walls) that colour."
- Ease of Maintenance - "They'll (the walls) just have to be wiped down every couple of years."

- Safety - "So I won't slip. My sister fell down (the stairs) and broke a bone."
- Physical comfort - "There was an awful lot of cold air coming in (the door)."
- Prevention of Deterioration - "The old one (window) was rotten; it caught all the rain."
- Privacy - "You don't like to be sitting there (on the toilet) and somebody walks in!"
- The need for more space - "We had seven beds in one room."

The improvement of appearance was by far the most frequent reason given for having repairs done; safety was the second, and cleanliness, the third. One might conclude that people are less concerned about the functioning of a house than they are about its appearance.

Consistencies in reasons for having specific repairs done were also found. The major reason, by far, for having interior painting done was the improvement of appearance, whereas the major reason for having flooring installed was safety.

The above information is valuable in that often untested assumptions are made by physical designers about what aspects of the quality of a living environment are important to persons living in it. This study does not provide conclusive results to test these assumptions. Rather it provides certain insights. For example, with more factual data an architect/designer's assumption that the functional parts of a house rather than its appearance are more important to residents may be disproven.

With insights gleaned from such data the architect/designer can work with greater confidence and relevance to those served.

Most Important Repair Needs, Resident Characteristics and Home Environment

The evaluation has produced additional results applicable in a broader sense than just to the performance of WHIP. The following results provide additional insight into the relationship of human behaviour to built environment, such insights ordinarily being limited to the conjecture of planners and designers.

The Most Important Repairs to Residents: Although the repairs that people had done are a good indication of what aspects of a living environment are most important to occupants, they do not provide a full picture. First of all, WHIP does only limited repairs, and therefore any other needs that residents have are not represented. Secondly, most of the repairs done up to the expiry date of the evaluation were interior repairs. Therefore needs for exterior repairs are not represented. Thirdly, residents may not have had certain important repairs done for a number reasons. They might not have been able to afford certain repairs; they might have thought that WHIP did not do certain repairs; or they might not have wanted to impose by having a lot of work done. However, one intent of the evaluation was to gain an understanding of what kinds of repairs were most important to people, regardless of the repairs that they actually had done.

Residents listed all their repair needs and described the reasons why they had these needs in answer to an open-ended question in the semi-structured interview. The repair needs were then classified into the following repair types:¹⁶

- A) Repairs to interior surfaces with which residents normally have no contact. e.g. repairs to walls and ceilings.
- B) Repairs to interior surfaces with which residents normally have contact. e.g. repairs to doors, windows, and floors.
- C) Alterations to interior surfaces which change:
 - i) The amount of living space,
 - ii) The functioning of living space,
 - iii) The amount of storage space.e.g. new rooms, changed use of existing rooms, closets and cupboards.

16. Classification was necessary because there were over twenty different repairs that occurred frequently. The meaning fullness of the classification was based upon the following assumption: the importance of various parts of a house to a person must be related to the behaviour "required" of that person by those various parts of a house. The only observable link between people's behaviour and repairs is the contact or lack of contact that people have with the surfaces repaired. Therefore the classification does not depend on an interpretation of how people perceive, for example, walls or floors, but upon an observation of whether or not they touch walls or floors in their day to day life. Differentiation is made between interior and exterior surfaces on the basis of the difference in the amount of exposure that people have to these surfaces. Also, because certain repairs changed the character of spaces within or without a house, they were felt to be unique, although they might involve repairs to surfaces with which residents did or did not have contact.

- D) Repairs to interior services. e.g. electrical, plumbing, heating.
- E) Repairs to exterior surfaces with which residents normally have no contact. e.g. house siding and roofing.
- F) Repairs to exterior surfaces with which residents normally have contact. e.g. steps and sidewalks.
- G) Alterations to exterior surfaces which change,
 - i) The amount of exterior space,
 - ii) The functioning of exterior space,
 - iii) The amount of storage space.e.g. fence and garage.

The most important kind of repair for each of 39 residents was determined to be that kind of repair that residents spent most time speaking about. The results were compared to residents own statements as to which repairs were most important. No statistically significant difference in the results obtained by both methods was noted.

It was found that in terms of individual repairs, painting was important to many more residents than any other repairs. Papering, drywalling, panelling, the installation of doors, the installation of floors, repairs to heating systems, the addition of rooms and cupboards, roofing, and finally fencing were important to equal numbers of residents. When these repairs were categorized into types, more meaningful results were found.

Interior repairs were most important to many more residents than were exterior repairs. This tends to reinforce the assumption made that the importance of interior and exterior surfaces depends upon the amount of exposure that residents have to each kind of surface. Further, it tends to discredit the assumption sometimes made that exterior surfaces are more important because of their potential for portraying the image of a resident. Besides providing some general understanding of people's needs, this result also suggests that we should give priority to interior repair needs in certain cases (see Summary and Recommendations).

An equal number of residents felt that repairs to surfaces with which they have contact and repairs to surfaces with which they do not have contact were most important. Therefore, in terms of the total sample, the hypothesis that the importance of repairs depends upon the degree of contact with the repaired surfaces is not proven. However, using more homogeneous subsamples of residents, evidence has been found that there is a relationship between certain characteristics of residents and the type of repair of most importance. Further research is required to test the validity and extent of these relationships.

Residents repair needs did not exclude major repair needs (all those beyond the scope of WHIP). In fact 5 of the 39 residents interviewed stated major repairs to be their most important needs. The implications of this in terms of the importance of limited repairs to residents is discussed in Resident Repair Needs and Satisfaction.

Characteristics of Residents and Repair Needs: It was evident from the results that there was not a consensus among residents as to which kind of repair was most important. That is, different residents found different kinds of repairs more important. An attempt was made to find any significant correlations between the kind of repair considered most important and certain characteristics of residents. It was hoped that a better understanding of what influences people as to the things that they find most important in their living environments, would be gained from this analysis. The characteristics examined were: age, condition, and location of the house; number and age of parents; number of children; density of people per room; length of residence; total number of repair needs (as stated by the resident in the semistructured interview); and the room that the resident said was most used in the house.

Thirty-nine residents were interviewed. Their age distribution was:

2 residents between 0 - 20 years of age
 14 residents between 21 - 40 years of age
 10 residents between 41 - 60 years of age
 13 residents between 61 + years of age

The average age of residents was 49 years.

Slightly more than half the families had two parents.

17 residents had 0 children
 15 residents had 1 - 3 children
 7 residents had 4 + children

The average number of children per family was 1.5.

On the average, the houses that residents lived in were 47 years old. 77% of the houses were in good or average condition, and 23% of the houses were in poor condition. Also 69% of the houses were in the inner city.

The average density was one person for every two rooms in the homes (i.e. 0.5). Residents had lived in their homes for 14 years on the average. The average number of stated repair needs per house was eleven. 54% of residents considered the kitchen to be the most used room in the house; 33% considered the living room to be; the remaining 13% considered various other rooms to be the most used rooms.

Several significant correlations emerge in the study between resident characteristics and the most important repairs as stated by the residents.

Residents for whom repairs to interior surfaces with which they have no contact were most important were the oldest residents, had lived longest in their homes, had fewer than average stated repair needs, and lived in an above average number of houses in good condition. Those residents for whom repairs to exterior surfaces with which they have no contact were important were very similar to those residents described above, except that they also had a fewer than average number of children.

Why should such correlations exist? People may tend to value repairs to surfaces with which they do not have contact more when other kinds of repairs have been done previously (i.e. Houses with long ownership, in good condition, with few repairs wanted by residents). Jobs like painting may be too physically demanding for older people to do themselves.

Or perhaps older people see the surfaces with which they have no contact more often than younger people and tend to use surfaces with which they do come in contact less than younger people. That is, their life is more relaxed, perhaps confined, and they have older and fewer children to take care of.

Another significant correlation was found in the characteristics of residents and the need for alterations to interior surfaces changing space. These families had two parents in an above average number of cases, had an above average number of children, had stated the largest number of repair needs, lived in the oldest homes, and were unanimous in considering the kitchen as the most used room.

Again there may be several reasons for these correlations. Life styles, and hence space requirements have changed since these houses were built. The need for space is probably related to parents concern about the suitability of the home environment for children. The need for space that large families seem to have may in part be related to the fact that large families use their kitchens more than other rooms in their homes. The space needs for a kitchen are more precise than for other rooms in a home. If the kitchen is used a great deal, perhaps the need for adequate space is more strongly felt.

Those residents that chose alterations to exterior surfaces changing space were similar to the residents described above. Except that they were younger and had more children. Basically, the same reasons apply to these correlations as those related to interior space needs.

Not only does the above kind of discussion provide insights into the kinds of repairs that different people value; it has another potential function. It could be used to anticipate and plan the delivery of the types of repair services most desired by a specific population whose characteristics were known. For example, if a large number of residents were older and had lived in their homes for many years, one could anticipate more repairs such as painting, panelling, or wall papering. The fewer the children, the more likely jobs such as exterior painting, would be desired. On the other hand, if a large number of residents were younger and had more children, one could anticipate more jobs such as the "roughing in" of bedrooms or bathrooms. The more children, the greater would be the likelihood of repairs such as fencing. As these different repairs require different skills, anticipation of the amount of emphasis on and training in certain skills would be beneficial.

Characteristics of Residents and their Home Environment: The collection of information about the characteristics of 39 residents serviced by WHIP revealed certain interesting correlations, which although not specifically applicable to the evaluation of limited repair, do provide some insights into several assumptions commonly made by designers of living environments. They also suggest topics for future research into people's perceptions of their homes.

Certain assumptions are commonly made about the relationship of the condition of a house to characteristics of residents. The results show no significant relationship between house condition and the number or age of parents. Therefore the assumption that might be made that older people live in houses in poorer condition because they are physically unable to maintain them is not born out by our findings. Also, the

assumption that might be made that single parents live in houses in poorer condition because they don't have the time to maintain them is not born out by the results.

A correlation was found, however, between house condition and the number of children in a family. That is, the fewer the children, the better the condition of the home. The reason for this correlation might be that children normally subject a house to considerable wear and tear. On the other hand, the reason might be that large low income families often cannot afford to buy houses of adequate size in good condition.

Another correlation found was that houses in poorer condition tended to have less space per person. This reinforces an assumption often made that poor condition and inadequate space are housing characteristics generally found in combination. The reasons for this are similar to those given for the previous correlation.

A weak correlation was found between the condition of a house and the number of repair needs perceived by the occupant of that house. Those residents living in houses in good condition perceived only slightly fewer repair needs than those living in houses of poor or average condition. The lack of strength in the correlation suggests that the way that an occupant and outsider perceive the quality of living environment in a house may be different. However, the results neither prove nor disprove assumptions made about home occupants' ability to judge their own need.

Other correlations also existed between the kind of resident and the number of expressed needs. Older parents expressed fewer needs than younger ones. People who had no children expressed fewer needs than those that did. People expressed

more repair needs when there was less space per person in the house. Perhaps older people become less sensitive to their physical surroundings. Perhaps, parents' concerns for children increase sensitivity to their physical surroundings. Or perhaps it is the density of living which really increases people's sensitivity to physical surroundings.

It might be expected that the number of perceived needs would decrease, the longer someone had lived in a home. The results do not substantiate this hypothesis. On the other hand, a correlation did exist between the number of needs expressed and the age of a house: the older the house, the larger the number of expressed repair needs.

Finally, there were some correlations apparent between the kind of resident and the room that was considered most used. Older parents used the living room most, and younger parents the kitchen. Moreover, as the number of children in a family increased, the most used room changed from the living room to the kitchen.

In some cases, the hypotheses tested and the correlations discovered might seem obvious. It has been the intent of this part of the study, however, to derive some solid data -- data that we might begin to use with more confidence in the design of built environments. This field has been too long one in which guessing and personal interpretation have been the tools of translating assumed behaviour and attitudes into physical form.

SUMMARY AND RECOMMENDATIONS

Summary

WHIP has been successful in achieving a number of its goals. It repairs more houses and by implication affects more people with given time and money than does extensive renovation (see Comparison of Extensive Renovation and Limited Repair). WHIP does so at a cost to residents that they can afford (see Cost of Limited Repairs to Residents). The majority of residents are satisfied with the repairs done by WHIP and consider limited repairs important (see Resident Satisfaction). Little disturbance is caused in most cases by repairs in residents' homes (see Resident Disturbance Caused by Limited Repairs).

The need for home improvement in the inner city is great. In the Final General Report, Urban Renewal Area Number 2, 1968, it is stated that 75% of the houses in former urban renewal area number 2 are in fair to poor condition.¹⁷ It is the opinion of the researcher that this figure is an exaggeration although it does indicate that a substantial amount of the housing stock in this and other similar inner city areas is in poor condition. The backlog of repair applications that WHIP has is another indication of the need for home improvement.

17. City of Winnipeg, Department of Housing and Urban Renewal, 1968. Jones & Assoc., Michener & Assoc. p. 18.

Recommendations

1. Because WHIP has achieved the majority of its goals related to house repairs and there is a demonstrated need for home improvement work, it is recommended that the project expand gradually while intensifying its work in the inner city. The rate of expansion should be related to current demand and the capacity of staff. In addition, similar programs should be developed in other areas of the city.

2. WHIP does repair more houses with given time and government money than does extensive renovation. However, it is not as efficient as a private profit making company doing limited repair. Table 4 compares the relative efficiency in terms of average cost per repair of WHIP and a private profit making company. Cost in this comparison represents government expenditure; the cost figures for the private company in this case represent those of a stipulated sum contract (excluding material costs paid by residents) between the company and a government agency.

Although the average total cost per repair for WHIP is greater than that for a private profit making company, there are several benefits of the WHIP program that are not realized with the private company. First of all, WHIP provides a training program. Moreover, it is a very special training program in that it is training crews in the skills of rehabilitation as opposed to new construction. Whereas in the past much of the rehabilitation work was done by workmen familiar only with new construction, in the future, rehabilitation can be done by workmen from WHIP specifically trained to do repair work.

Table 4. Average Costs per Repair for WHIP and a Private Profit Making Company.

<u>Average Costs</u>	<u>WHIP Government Sponsored</u>	<u>Private Profit Making Company Government Contracted</u>
Labour	\$336. ¹	\$245. ³
Material	-	-
Overhead and Administrative	252. ²	110. ⁴
Profit	-	25. ⁵
TOTAL	<u>\$588.</u>	<u>\$380.</u>

1.
$$\frac{[\text{Sum of Average Times (Work \& Training) for 8 Types of Repairs (Man Hours)}] \times [\text{Wage per Hour}]}{8}$$

=
$$\frac{\text{Average Labour Cost}}{\text{Repair}}$$

2.
$$\frac{\text{Average Labour Cost}}{\text{Repair}} \times .75$$
 (based on bookkeeper's records).

3. Similar to 1., based on information supplied by eleven private contractors.

4. Labour plus Material Cost $\times .225$ (based on information supplied by contractors).

5. 9% of Total Cost (based upon information supplied by private contractors).

Secondly, WHIP provides training for people previously receiving government support from unemployment or social assistance agencies. This training enables these people to become independent of social assistance and therefore may eventually realize a cost saving to government. Finally, WHIP has great social benefit in

that it enables previously unemployable persons to enter the labour force. This helps to improve their lives as well as to increase their contribution to society. Therefore, although private industry appears more efficient than WHIP in doing limited repairs, the additional social and economic benefits of WHIP and the potential for increasing efficiency (see recommendation number 3 below) allow WHIP to compare most favourably with private industry as a viable approach to limited repairs.

Since WHIP is a viable alternative to private industry, it is our recommendation that other similar training programs be set up in other parts of the city. By focusing on one area of the city, efficiency benefits can be derived as discussed in recommendation number 4.

But WHIP only provides a certain level of training in the skills of rehabilitation and once a participant graduates to private industry most of the work will be in new construction. As well, much of the renovation work by private industry is done for business or for the wealthy and not for low income people in poor housing. It is generally not profitable at a small scale.

In order to further develop the rehabilitation skills of participants and to service low to middle income people with small scale repair needs, private and non profit companies should be established.

On July 13 the WHIP Board called for the development of a new private company into which participants would move through a phased program. This program and company should be established. In addition, an alternate form of non profit company

should be developed which could operate on a share capital base, with incentive bonuses provided to staff. This form of company has certain tax advantages, a lack of individual responsibility and can accept government grants to allow it to provide a lower cost service to the consumer.

Either form of company would have an agreement with WHIP regarding hiring WHIP participants to further develop their skills. Such an organizational relationship could be the beginning of a truly local rehabilitation industry.

3. The cost component of labour for WHIP is greater than for a private profit making company. Although the hourly rate paid to WHIP workers is approximately half that of skilled tradesmen, the time necessary to do the repairs is so much greater for WHIP that the resultant average labour cost per repair is higher.¹⁸

Several factors affecting the amount of time necessary to do repairs were pinpointed in discussions with residents and private contractors. Many residents interviewed commented on the extended coffee and lunch breaks taken by the crews. Excessive socializing within the work crews was thought to cause considerable waste of time. This seemed

18. This is corroborated by the fact that WHIP did only five houses in the time necessary to do one extensively renovated house, but 19.3 houses for the cost of one extensively renovated house (see Limited Repair and Extensive Renovation). In addition, foremen documented the time necessary to complete repairs in nine houses and estimated the time necessary for private industry to complete the same repairs. They estimated that on the average, WHIP took 4.4 times as long as it would take private industry. This was corroborated in a comparison of the times necessary to do repairs by WHIP, as recorded on the time sheets, and the times necessary for the private industry to do the same repairs, as calculated from information provided by private contractors.

to have been encouraged by large crew sizes and by the extended absence of foremen.

WHIP participants were encouraged by the foremen to "take their time and try to do it right". The intention was to minimize material wastage, maximize quality and enhance basic learning. Nevertheless, time wasted through mistakes due to lack of instruction was also thought to be a function of the foremen's absences. These absences, in their turn, were a function of the fact that foremen had to visit and supervise an average of four sites per day distributed over a large area of the city. It is recommended that one of the participants be made "crew leader" on each job, with limited responsibility to act on behalf of the foreman in his absence. This position should rotate to other crew members on a monthly basis.

To reduce labour cost, it is recommended that crew sizes should be reduced to two or a maximum of three workers per house. The present foremen to total crew ratio, however, should remain the same. Thus, in order to reduce the job crew size, the participants will have to be spread over more jobs. This creates some logistical problems discussed in the following section. By adopting the changes recommended above, the labour cost of WHIP might be reduced substantially.

Presently, the Operations Coordinator, in assigning jobs, attempts to cluster jobs in one part of the city to minimize the foreman's travel time. It is recommended that practice be translated into selection policy. Proximity to other jobs, or specific travel time, therefore, should be a major job selection criterion. Furthermore, prior to commencement of

a job or while repairs are being done in a specific sector, publicity staff should solicit work in these areas to better concentrate work sectors.

To help increase efficiency of supervision, to reduce labour costs, and to maximize community impact, WHIP should restrict the area of the city that it services. In this way, foremen would be able to visit sites more often and for longer periods of time and spend less time travelling from site to site. These recommendations are reinforced by another conclusion of the evaluation. Lack of quality control was the major reason for residents dissatisfaction (see Resident Repair Needs and Resident Satisfaction). Quality control would be improved if foremen visited sites more frequently. Also, this recommendation is an extension of the recommendation to enlarge the size of the project. If the project was enlarged and serviced the same area of the city, foremen would have smaller jurisdictions and would therefore spend less time in travel. Unfortunately, it cannot be recommended that the foremen-crew ratio be altered because this would greatly increase the cost of repairs.

4. The cost component for overhead and administrative costs is greater for WHIP than for a private, profit making company. Of course, the training program accounts for a substantial amount of total administrative costs. Inefficiencies, as a result of WHIP being a new company, are another reason for its high overhead and administrative costs. The involvement of the participants in operational and board meetings, as training in decision making, is another cost factor. There is additional administrative time utilized to aid the

government in monitoring the project. And, finally, WHIP may be slightly overstuffed.¹⁹

Private contractors have estimated that a private company with the same number of workmen as WHIP's present complement of participants would have only one secretary and one bookkeeper. Presently WHIP employs three secretaries and two bookkeepers. Two of WHIP's secretaries, however, have administrative duties that extend beyond the repair program. It is recommended, therefore, that WHIP reduce its staff by one bookkeeper. However, due to the fact that this person's experience would be most valuable in another WHIP-type program, every effort should be made to place him or her in such a program. It should be noted that, regarding administrative staff, this recommendation has less effect upon improving efficiency than do those related to labour cost.

If the project is to expand, the appropriate ratio of administrative staff to participants would have to be reanalyzed.

5. The majority of residents are satisfied with the repair work done by WHIP. However, some residents were dissatisfied with the quality of work. Reduction of crew size and the increase in supervision by foremen attempts, in part, to rectify this dissatisfaction.

Although there is no evidence of the deterioration of WHIP repairs, the immediate deterioration of surfaces repaired by

19. A detailed analysis of possible reasons for high overhead and administrative costs is to be found in the Project #3-33-7-A, WHIP Administrative Study, op.cit.

one of the previous LIP projects was observed. In these cases, only the symptom of a more severe problem was dealt with. This is a potential problem with limited repair and foremen should be cautioned to ascertain the root cause of any problem. This may mean advising against doing repair, solving the cause of the problem, or devising a repair method which will last over a period of time.

A growing factor in resident dissatisfaction was the length of time necessary to do repairs (see Resident Disturbance Caused by Limited Repairs). Because time devoted to academic upgrading increases the duration of work in houses, it is recommended that the repair work in houses no longer be interrupted by classroom time. This could be achieved in several ways. For example, participants could do a term of academic upgrading and then a term of repair work. This term would be determined by the length of time suitable to the upgrading course as well as by the average length of time spent per house in repair work.

Although residents, in large part, were satisfied with repairs, the repairs that they had done were not necessarily the most important. A large majority of residents felt that interior repairs were more important than exterior repairs, regardless of the work being done on their house (see The Most Important Repairs to Residents). For this reason, it is recommended that WHIP not restrict itself to exterior work in warmer weather. Resident need, and not climate, should be the most important criterion in the selection of repair work to be done.

6. As discussed previously, several WHIP goals were not met satisfactorily. Only 23% of the houses repaired were found to be in poor condition and 31% of the houses repaired were

Once informed of a tenant-occupied dwelling in need of repair, the municipality would give the landlord a period of time to repair the dwelling. If these repairs are not done, the municipality would then expropriate the property at market value, transferring ownership to the non profit housing corporation. WHIP would then be contracted to do the required repairs, funded by the municipality or by grants through the non profit housing corporation. Thus, the condition of old housing stock is improved and the area rental rates stabilized.

b) Rent Control Agreement

Prior to any work being done in a tenant-occupied dwelling, an agreement between the landlord, WHIP, and a municipal board of jurisdiction would be signed. It would specify the amount of work to be done, the rent to be charged in a specified time period, and resale limitations. In this way, the tenant is protected from escalating rents as a result of repair work. The landlord is allowed to raise rents based solely on documented cost increases. The inducement to the landlord is the increase in property value and half price repair work.

It is important within this agreement to limit the repair work as the intent is not to completely renovate the property but to do limited repair. With the proper controls it is more important to improve the living environment of the tenant than to be concerned with a small subsidy to the landlord. Otherwise, as experience has shown, the landlord will do nothing but continue to collect the rent.

The key to any rent control agreement is having the jurisdiction and ability to enforce it. In that sense, any agreement will have to be approved and enforced by the municipality.

A comprehensive approach to the maintenance of tenant-occupied dwellings in lower income areas may be a combination, in some form, of both approaches.

8. The evaluation provides valuable information for the anticipation of rehabilitation needs useful in developing programs possibly utilizing the new neighbourhood improvement legislation. It is recommended that research should be done into the population characteristics of specific areas of the city. Then, to an extent, the kind of rehabilitation program most suitable for an area could be anticipated and developed. This study has shown that old people with few children value repairs such as painting and wall papering, while younger people with more children value additional rooms or fence installations. That is, a program anticipating the needs of the former kind of resident might be less extensive than one anticipating the needs of the latter kind of resident. When a decision is reached on the type of repair work to be done or the population to be served, work can be solicited in those areas of the city where demand will be high. In addition, foremen with specific skills, e.g. painting, drywall, or rough carpentry, can be hired in anticipation of the demand.

9. As a result of examining the limited repair technique by using the extensive renovation method as a basis for comparison, it is clear that both programs have deficiencies and benefits.

The extensive renovation program is costly, time consuming, has impact on few houses, and forces the relocation of occupants.

But, it has the benefits of truly salvaging existing housing stock, creating a fine living environment for the occupants, and providing good housing for years to come. In addition, it may create some community stability by encouraging investment and retaining beautiful old houses often found in older communities.

The limited repair program is limited in terms of its impact on the life span of the houses and does not solve the severe problems which may require the repair work to be repeated at a later date. This program, though, has many benefits. It takes a short time, can respond quickly to need, is inexpensive, has an impact on many houses, does not force the relocation of the occupants, can act as a training/employment program for unskilled persons, and facilitates work to be done in poor houses and for tenant-occupied premises because of the low cost of repairs.

The goal of the extensive renovation program is to salvage ageing housing stock while the goal of limited repair is to quickly improve housing for people who would not otherwise have repairs done, as well as provide a training/employment program for unskilled labour. These goals are not mutually exclusive and a comprehensive rehabilitation scheme with the

goal of improving the housing conditions in an area should include both programs.

Thus, extensive renovation can be used to provide good housing through repairs that are less expensive than the cost of replacing the house with a new unit, to transfer ownership of properties to a non profit organization to stabilize housing costs, and to preserve the assets of older houses, which, in most cases, would be difficult to replace with new housing. The limited repair program would work in those properties where extensive repairs were not economically feasible. This may involve simply maintaining a fair house for a number of years or temporarily improving a poor property slated for demolition. A phased new housing program would have to be integrated with the rehabilitation approach to compensate for properties demolished. It would also require an intensive analysis of the housing stock in a given area to determine the feasibility of repairs.

If WHIP were to expand, it could do both kinds of work -- limited repair and extensive renovation. If a local non profit housing corporation were given the funds and authority to purchase houses, it could act as the sponsor of this program. WHIP, or other similar programs, would compete with private industry for the job with the contract being awarded to the low bidder. It is likely that with experienced crews and increased efficiency, WHIP could compete successfully with private industry. By charging both labour and material, WHIP's budget would be subsidized by funds otherwise directed to private industry. It would also provide an opportunity for WHIP participants to gain further training and develop a higher level of skill in rehabilitation, thus fostering local rehabilitation companies.

An ideal vehicle for this program would be the new NIP legislation. This would enable WHIP to work in a designated NIP area, thereby taking advantage of the \$5,000. maximum/ \$2,500. maximum forgivable rehabilitation grants being offered.

Thus, it is recommended that WHIP examine the feasibility of working with government and local non profit housing corporations on a Neighbourhood Improvement Program (NIP) in a specific area of the inner city.

Regardless of NIP, it is recommended that WHIP attempt, on a trial basis, a small amount of more extensive renovation work, charging both labour and material costs. But, it should be understood that the major focus of the program will remain limited repair.

10. Finally, it is recommended that WHIP continue to evaluate the impact of its repair program on the residents, the participants, the houses, and the neighbourhood. Moreover, the economic effects of limited repair on property values, assessments, property taxes, and rental structure should be studied.

To facilitate this, selected residents and properties in specific areas should be studied over an eight month period by collecting data before and after the repairs are completed.

This will provide a strong base of factual data on which to evaluate WHIP's performance and impact and to recommend further changes in WHIP's program and new directions in neighbourhood improvement programs.