Interdisciplinary Ph.D. Program
In Urban Design and Planning

2004 Ph.D. Program
Self Study

An Interdisciplinary Program
of the
University of Washington Graduate School

THE INTERDISCIPLINARY GROUP FOR THE PH.D. IN URBAN DESIGN AND PLANNING

The University of Washington Graduate School

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Table of Contents

Attachment 5: Annual Student Status Report

Attachment 6: Student Presentations and Publications

Attachment 7: Student Enrollment, Ethnic Breakdown

Attachment 8: Funding and Mentoring Strategy

Attachment 9: Self-Study Report from the Previous Review, 1998

I. Introduction: Program Description and History

Degree Title

Ph.D. in Urban Design and Planning

Unit Authorized to Offer the Degree

The Interdisciplinary Group for the Ph.D. in Urban Design and Planning ("The Group"). The Group is a unit of the University of Washington Graduate School. It is composed of 17 Core (voting) faculty, and 16 Affiliate Faculty from 9 departments or schools across the UW campus.

The Field Of Urban Design And Planning

Planning is a multidisciplinary field dedicated to helping society manage change (ACSP 1996). It has roots in engineering, geography, law, architecture, landscape architecture, social sciences, social ethics and public affairs. Increasingly, it also engages with the natural sciences as issues of the impact of urban development on the natural environment receive more academic and policy attention.

The field of urban planning as a subject of graduate education is firmly established in academia. There are 75 U.S. programs that offer professional master's degrees in planning. Ph.D. programs have been growing slowly, but continuously, since 1965, to a total of 27 programs now listed for the U.S. and Canada in the Association of Collegiate Schools of Planning Guide to Graduate Education in Urban and Regional Planning.

Looking towards the future, the field of planning has a potential to fill a critical academic niche, by drawing together interdisciplinary efforts to address compelling urban and environmental problems that defy solutions crafted within single disciplines. There is a growing recognition of the need to draw together the theories, methods and perspectives of the natural and social sciences with those of planning and policy to improve understanding of and develop strategies to address these complex problems. This awareness has begun to translate into funding opportunities from the National Science Foundation and other sources through

cross-cutting funding initiatives that this program has been effective in pursuing, such as the following NSF programs: the Urban Research Initiative, Biocomplexity, Digital Government, Information Technology Research, and the Integrative Graduate Education and Research Traineeship program.

History Of The Ph.D. At UW

The Ph.D. in urban planning is nearing completion of its fourth decade at UW:
Responding to a need for advanced and research oriented studies, the Department (of Urban Planning) and the Graduate School developed a Ph.D. program in Urban Planning Studies that admitted its first students in 1967. Its first Ph.D. was awarded in 1970. The interdisciplinary character of the program was fostered by the Graduate School and attempts are still made to keep the program widely-based. (From the 1983 Graduate School Ph.D. Program Review).

In 1982, the Dean of Architecture and Urban Planning and the Dean of the Graduate School proposed replacing the program with a college-wide Ph.D. in the College of Architecture and Urban Planning (CAUP) due to "diminished resources." In 1983, an independent committee strongly recommended against termination. It reasoned that the case for closure was not compelling, the program satisfied all criteria for continuation, a Ph.D. was at the heart of urban planning given its nature as a social science, and the negative impact would be considerable.

In the mid-1980s, the names of the Department of Urban Planning and its Ph.D. degree were changed to Urban Design and Planning when the CAUP Urban Design Program and faculty were joined with the Department of Urban Planning. From then until 1989, the Ph.D. program was administered by the Department of Urban Design and Planning (DUDP).

In 1989, a Graduate School review found that despite a very high level of student satisfaction with the program (well above the UW average), the faculty in DUDP had an unacceptable level of scholarly research and publication for a research university. The review committee recommended that DUDP faculty have time made available for doing more research, that the faculty develop much stronger intellectual ties to the rest of the university, and that CAUP specify and implement its commitment to the program. The committee also said that a new

outside Chair should be found for DUDP, that two new positions should be made available jointly with other departments, and that the program should be granted provisional status until scholarship significantly improved in DUDP.

In response, the Graduate School Council recommended that the Provost transfer degree-granting authority to an Interdisciplinary Graduate School Group.

An Ad Hoc Committee identified the research strengths of various faculty across campus in the general area of physical planning related to the uses of land and the characteristics of the urban and suburban environment. The focus on physical planning was considered timely because scholars in the planning literature were calling for a renewed commitment to physical planning (Alonso 1986; Kaufman 1988; Sawicki 1988). This debate and the recognition that few schools had the resources to offer physical planning specializations (ACSP 1992; Weiss 1988; Pivo 1989; Pivo et al. 1990) led the Ad Hoc Committee to recognize the tremendous role the program and university could play by becoming a national leader in physical planning.

In March of 1991, the Graduate School appointed four senior faculty to an Interdisciplinary Committee on the Ph.D. in Planning. The Committee was charged with forming the Interdisciplinary Group and organizing a new Ph.D. program. The Interdisciplinary Program for the Ph.D. in Urban Design and Planning was initiated in the fall of 1991.

Since 1991, the program has been governed by the Interdisciplinary Group in the Graduate School, and has evolved into a more fully interdisciplinary program. It remains in provisional status as it was designated when it moved to the Graduate School. The program was last reviewed in 1998, and though the review was largely positive, it enumerated several concerns that resulted in a recommendation to review the program again in five years, in the mean time retaining its provisional status.

II. Self-Study: Main Text

A. Self-evaluation

The principal objective of this review is to assess the strengths and weaknesses of the program today, and to seek its transition from provisional to continuing status. We begin the self-assessment therefore with a review of the concerns raised during the last review of the program in 1998, describe what has been done to respond to each concern, and assess the effectiveness of the response on relevant outcomes.

Concerns Raised by 1998 Review

Below are the issues outlined by Dean Marsha Landolt at the conclusion of the 1998 program review (see Attachment 9) as ones that the program needed to address, and other concerns outlined by the review committee. These encapsulate the principal internal and external challenges that the program had to overcome in order to achieve not only a successful review, but also a rise to national prominence as an exemplary program.

1. Educational program goals
2. Expectations of students in the program
3. Support for students
4. Programmatic and administrative relationships with other programs and departments
5. Definition of core faculty
6. Foundations of excellence in professional and scholarly contributions
7. Consideration of resource constraints
8. Administrative placement of the program, including potential relocation to Urban Design and Planning, relationship to Evans School of Public Affairs, and relationship to CAUP-wide Ph.D. program.

The following recommendations were also made in the 1998 program review:

9. The Graduate School Dean should reconstitute the IUDPG faculty. Any person who is no longer actively supporting the program should be removed from the IUDPG roster.
10. The IUDPG Director and Steering Committee should jointly prepare a vision and strategic plan for achieving that vision.
11. The IUDPG Director and Steering Committee should work with the IUDPG program administrator and doctoral students to improve the core curriculum and to develop (and implement) a mentoring system for doctoral students, focusing especially on those in the first year.
12. The DUDP Chair should work with the Dean of CAUP to re-assign space in Gould Hall so that doctoral students will have both office space and a commons area. The DUDP faculty should encourage their graduate students to establish a weekly seminar.

Actions Taken to Resolve these Concerns

The program has gone through an extensive assessment of these issues, and has taken actions over the past three years to address each of these concerns, as described below. In doing so, we believe that it has become one of the most competitive and innovative PhD programs in urban design and planning in the country.

1. Educational Program Goals:

The program adopted a new curriculum structure in the Spring of 2001 that clarifies program goals and balances the need for flexibility with the adoption of clearer standards. This culminated from a year-long process in 2000-01 of surveying and interviewing students and program faculty about the strengths and weaknesses in the program, and identifying areas of disagreement and consensus. While this was a very difficult process, it ultimately resulted in an overhaul of the curriculum, an elevation of program standards, and a clarification of the program's intellectual focus that were essential to improving the program. The focus approved in the curriculum in the spring of 2001 is the following:

"The intellectual focus of the Ph.D. program is unique in bringing together interdisciplinary perspectives from the social and natural sciences, humanities, and design and planning disciplines, and applying them to the formation and evaluation of urban and environmental plans and policies.

- It seeks explore ways of applying the interdisciplinary understanding of these interactions to informing the development and evaluation of plans and policies related to land use, housing, transportation and other infrastructure, and the environment. These applications draw on the fields of urban planning, urban design, landscape architecture, forest resources, policy analysis, and civil engineering.

- It seeks to explore interactions among built urban form; urban markets for real estate, labor, public services and infrastructure; urban social and political institutions and processes; and urban ecological patterns and processes. Study of these interactions draws on the disciplines of economics, geography, history, sociology, political science, and ecology, among others.

- It seeks to employ research methods and approaches that promote advancement of theory and the empirical testing of theory, in order to make contributions to the advancement of scholarship and practice in the areas of urban and environmental planning and policy. Research methods range from qualitative to quantitative techniques, including such techniques as GIS and simulation modeling."

2. Expectations of Students in the Program:

Among the changes made to the curriculum were clarifications of the expectations at each stage of the program. These expectations are spelled out in the curriculum materials and on the program web site, and a list of common questions and responses has also been compiled and put on the web to facilitate communication about program expectations (see Attachment 4). In addition, the Program Director has met with students as a group to discuss questions about program requirements, and in particular about confusion arising from the transition in the curriculum and its implementation since 2001. Students have also begun to organize to provide more peer mentoring, for example by compiling course reviews and other helpful materials in the newly assigned Ph.D. student space in Gould, and organizing discussion sessions in the student 'Bowling-league'. While much progress has been made, the process of transitioning to the new curriculum, and the issues of course availability and substitution, have been sources of confusion and warrant continued attention.

3. Support for Students:

This has been one of the most visible and compelling of the improvements in the program. We developed a funding and mentoring strategy in 2001, and have been very successful in leveraging Graduate School support with research and teaching support. For the past 3 years, all students admitted to the program have had 2 to 3 years of funding. The response has been soaring applications, an admissions rate that was under 7% of applicants in 2003-04, and a 100% capture rate for those admitted for the past two years (see Figure 3, page 24). This increase in research and fellowship has more than offset erosion in funding for teaching assistanceships.

4. Programmatic and Administrative Relationship with Other Programs and Departments.

The Department of Urban Design and Planning already has key joint and adjunct appointments for faculty that are actively engaged in the program. The department is actively pursuing the designation of an additional member of the program as Adjunct faculty, in order to strengthen ties with other units closely linked through the PhD program. There has been a long-standing concern about the incentives for faculty from other units, outside the Department of Urban Design and Planning, to be involved in and contribute to the program. These concerns will continue to need attention in an environment where budgetary pressures and the institutional incentives reward within-unit activities and often do not recognize, or even create perverse incentives for activities that cross institutional boundaries. In spite of the difficulties, the program has been able to engage faculty actively in the program from across the UW campus, from the social and natural sciences, and from public policy. The key to this has been its interdisciplinary research focus centered on urban problems, and the collaborative research projects being pursued among core faculty in the program. Through several interdisciplinary and highly collaborative initiatives, the program faculty has developed an active and engaged core group.

5. Definition of Core Faculty:

The program has not had a systematic procedure for designating core faculty, and there has been wide variability in the level of involvement of faculty. This posed problems for students that need to understand the level of involvement and availability of faculty to work with, and has already been outlined as an issue that must be addressed before the next review. The

Steering Committee, after soliciting comment on the proposed policy, adopted a policy in January, 2004 to automatically designate Interdisciplinary Group members as either Core Faculty or Affiliated Faculty preceding the beginning of the fall quarter of each academic year, depending on their level of involvement with students over the past three academic years. Core faculty will be those that have worked with at least three students in the program over the past three years, in at least two of the following capacities: teaching, committee membership, or funding. Voting on program affairs will be restricted to Core Faculty. Faculty that move from core to affiliate status as a result of a decline in their level of involvement will be notified, and invited to participate more actively in the program. Their status would be changed to core as soon as their level of involvement again exceeded the threshold defined for core faculty designation. Faculty appointed to the Interdisiplinary Group would be appointed for three years as Affiliate Faculty, and could be re-designated as Core Faculty at any time they meet the terms of this designation.

6. Foundations of Excellence in Professional and Scholarly Contributions.

Program faculty have been extremely successful in the past few years in obtaining substantial visibility and external support for advanced research. Several large grants from the National Science Foundation, in addition to grants from the Centers for Disease Control, and State and Local agencies, have provided over $37 million in research and educational funding, since 2000. The rate and placement of scholarly publications is also very strong. The core areas in which program faculty have developed considerable external funding and scholarship are cross-cutting substantive and methodological areas:

Substantive Areas:

- Urban Ecology and Environmental Planning, examining the dynamic and spatial patterns of land cover change, their interrelationship with ecosystem health, and the effects on and from human behavior, including planning and policy in urban areas. A series of grants from the National Science Foundation and state agencies have anchored this area, and a significant fraction of the students in the program are focusing in this area, and an Urban Ecology Lab provides a focal point for the research activity.
- Urban Design, especially related to the effects of urban morphology at a neighborhood level on pedestrian activity and human health. Grants from the Centers for Disease

Control and from state agencies support the development of this research. This has been a well-established core area in this Ph.D. program for many years. An Urban Design Lab provides the locus for this research.

- Land Use and Transportation, focusing on the metropolitan and local analysis of changes in urban development, transportation, and environmental conditions, has emerged as a major research area over the past several years. Grants from the National Science Foundation, and other federal, state and local agencies have supported the development of the UrbanSim model system, and its application in several metropolitan areas. This research activity is a focus of the Center for Urban Simulation and Policy Analysis.
- Growth Management has been a core topic in the program for many years, and the field has evolved considerably. Core funding from the state has enabled the creation of the Northwest Center for Livable Communities, to coordinate research in this area. This area has long been a strength of the program, and is being revitalized by new faculty and new methods of analysis.
- Real Estate Development is a newly emerging capacity within the program, with the creation of the Runstad Center for Real Estate, and the addition of new faculty to coordinate the development of curriculum and research in this area. This is an emerging area of strength in the program, with considerable future potential.

Methods and Processes:

- Geographic Information Systems, Remote Sensing and spatial pattern analysis, used in all of the research centers mentioned above.
- Urban Simulation, drawing on the development of the UrbanSim system in the Center for Urban Simulation and Policy Analysis.
- Statistical Analysis, including discrete-choice modeling and spatial analysis. The Center for Statistics in the Social Sciences is an outstanding resource for expertise in state of the art statistical techniques as well as providing courses oriented towards advanced students in the social sciences. Faculty in CSSS are also involved in the interdisciplinary Ph.D. program.

- A final area of interest among faculty that cross-cuts the substantive and methodological interests is in public participation in urban planning and policy. This area has considerable potential for becoming a strength of the program, and several new faculty appointments in Urban Design and Planning have active research agendas in this area.

There are complementarities and overlaps among these core areas of excellence within the program, but collectively they define the areas are recognized as having a substantial presence and focus within the program.

7. Consideration of Resource Constraints.

The State of Washington, and by extension the University of Washington, have been adversely affected by a prolonged recession and by various tax and spending initiatives approved by voters in the state. These have led to reductions, in particular, in the availability of funds for Teaching Assistanceships. The Ph.D. program has been able to overcome these resource constraints by effectively obtaining external research and fellowship grant support, and has as a result strengthened its resources considerably. A strategic response to limited resources was the adoption in the spring of 2001 a funding and mentoring strategy that attempts to leverage the limited resources to the maximum extent (see Attachment 8). This strategy combines the three 9-month Fellowships from the Graduate School to obtain commitments from faculty with research grants, and from the Department of Urban Design and other sources for Teaching Assistanceships, to put together two and three-year funding commitments to the applicants we wish to admit and attract to the program. This strategy creates positive incentives for faculty and the department to support students, since faculty with research can informally mentor a student in the first year while they work on completing their core courses, acquiring research skills, and becoming familiar with research projects. During the second year, these students are ready to contribute productively to a research project, and to extract maximum value from the experience of participating in funded research.

In addition to funding constraints, space has been a scarce resource and a chronic concern of students in the program (see item 12, page 21). A room has now been assigned by the Dean of the College of Architecture and Urban Planning to the Ph.D. program for the exclusive use of

students in the program. Furniture and equipment have been provided for this space by the College and the program, and students have submitted a Tech Fee proposal to add more computing capacity.

8. Administrative Placement of the Program:

The question of placement of the program has been raised numerous times since it moved from the Department of Urban Design to the Graduate School in 1991. The question was last examined in the review of the Department of Urban Design and Planning in 2001-02. At that time, the review committee made the recommendation that, although the program would be most logically housed in the Department of Urban Design and Planning in the long-run, it would be inadvisable to transition the program administratively at the present time. A copy of this assessment is included in the Appendices.

Our assessment of the question of administrative placement is conditioned by four considerations. First, the program has been moving in a very positive direction over the past several years, and is now very vibrant and nationally competitive. We do not want to change any of the ingredients that have been responsible for this success. Second, the governance of the program is the responsibility of the Interdisciplinary Group faculty, making the administrative placement of the program a secondary consideration to the question of how best to facilitate the effective engagement of this faculty group. Third, even though we have just experienced the tragic loss of Marsha Landolt's leadership of the Graduate School, we have concluded that this should not enter into the considerations of administrative placement of the program. And finally, we wanted to find a way to balance the need of the program to have a clear home, and most logically this would be in the Department of Urban Design and Planning, with the need to structure the program governance in a way that retains its interdisciplinarity and the degree of engagement it enjoys by faculty from across the university.

In response to these considerations, the following approach has been adopted by the Steering Committee after discussions with the faculty in the Department of Urban Design and Planning, with Bob Mugerauer, Dean of the College of Architecture and Urban Planning, and with Interdisciplinary Group faculty and students.

Program curriculum and other governance decisions should be made by the Core Faculty of the Interdisciplinary Group of faculty, reporting to the Dean of the Graduate School. The Department of Urban Design and Planning should host the program and provide space for students, as well as provide for the core curriculum, and should be identified as the home unit in all web and printed materials on the program. The Graduate School should continue financial support for Graduate Research Assistantships and a Program Coordinator, and approve appointments for Interdisciplinary Group members and the Program Director, based on nominations from the Core Faculty of the Interdisciplinary Group.

The most similar administrative model to the one chosen is the Interdisciplinary Ph.D. Program in Public Health Genetics. This is also a program that is regarded highly by the Graduate School as a successful model, although it is fairly recent. The program is described on its literature as follows: "The Ph.D. in Public Health Genetics is a new, unique, multidisciplinary degree within the UW Graduate School, administered by the Institute for Public Health Genetics (IPHG) and guided by the Interdisciplinary Group in Public Health Genetics." For more information on this program and how it balances an administrative home in the Graduate School with a visible association within the Institute for Public Health Genetics, see its web site at:
http://depts.washington.edu/phgen/DegreeTracks/phd.html.

Other options that were considered were 1) leaving the program as it is, and 2) moving it completely to the Department of Urban Design and Planning, as it was when it began in 1967. The review of the Department of Urban Design and Planning in 2001-02 concluded that although the department would likely be the most appropriate placement of the program in the long-term, in the short-term this was not a viable arrangement, mainly due to lingering concerns about research productivity, as well as concerns about losing the commitment to the program of interdisciplinary faculty from other units on campus. While the conclusions of the committee could be contested, the risk of doing so is considerable. In the current budget climate, and based on previous comments by the Graduate School, this program needs to move from provisional to continuing status if it is to be reasonably secure. The presence of a new CAUP-wide Ph.D. program in the Built Environment also raises the risk that there would be

considerable pressure to collapse the two programs, which would be a disservice to both the existing Interdisciplinary Ph.D. program as well as the new program in the Built Environment.

The Steering Committee selected this hybrid alternative of retaining Graduate School involvement but centering the program in the Department of Urban Design and Planning, for the following reasons:

- The program has made excellent progress over the past few years in achieving its objectives of strengthening the curriculum and improving the mentoring and funding of students. Based on the growing success of the program, we feel that the current governance of the program by the Interdisciplinary Group should be left largely intact, but should address the centering of the program within the Department of Urban Design and Planning by visibly associating the program with the department, and by having the department provide space for students and maintain responsibility for offering the core curriculum. This alternative appears the most likely to be able to build on existing strengths of the program and further enhance its long-term viability. It therefore also provides the strongest basis for moving the program from *provisional* to *continuing* status as an academic program.

- The program has become fundamentally interdisciplinary over the past decade, and its interdisciplinarity is the most widely cited asset by participating students and faculty. It is also the basis for much of the research and financial support available to students, and helps to differentiate the program from other programs in planning across the country. The Interdisciplinary Group, under the umbrella of the Graduate School, provides a stable and robust framework to engage faculty members from across campus, on equal footing with other program members, and enhances the interdisciplinarity of the program.

- Centering the program in the Department of Urban Design and Planning makes the internal and external identity of the program more clear and visible, and provides an essential home for the program so that students have a sense of place within the

program. It also benefits the Department of Urban Design and Planning and the College of Architecture and Urban Planning by associating the program with the department and the college.

9. The Graduate School Dean should reconstitute the IUDPG faculty. Any person who is no longer actively supporting the program should be removed from the IUDPG roster.

The Steering Committee has adopted a policy, after soliciting feedback from the Interdisciplinary Group, that faculty that have not been involved with any students in any of the three capacities of teaching, committee membership, or funding would be automatically inactivated from the program roster, but could be reactivated at any time if they become re-engaged with the program.

10. The IUDPG Director and Steering Committee should jointly prepare a vision and strategic plan for achieving that vision.

An extensive strategic planning process was undertaken in 2000-01, involving discussions with faculty and students, and surveys to collect information about assessment of program strengths and weaknesses, internal and external challenges, and vision of the focus of the program. This process led to the adoption of the current program vision, mission statement, curriculum, and funding and mentoring plan, all of which have been implemented over the past two years. The program has also worked systematically over the past several years to address the concerns raised by the 1998 review, with the aim of strengthening the program and moving it to continuing status.

11. The IUDPG Director and Steering Committee should work with the IUDPG program administrator and doctoral students to improve the core curriculum and to develop (and implement) a mentoring system for doctoral students, focusing especially on those in the first yea (see Attachment 8)r.

The core curriculum has been substantially restructured and strengthened, with PBAF 591 focusing on Advanced Research Design, PBAF 592 on Advanced Planning Theory, and PBAF 593 on Empirical Research. The course reviews have been generally strong since the restructuring, and published papers have begun to emerge from the work done in the Empirical Research course. A set of restricted electives from across the campus has been established in the curriculum for phases 1 and 2, and these add depth and rigor to the curriculum.

One of the more vexing challenges faced in the core curriculum is that the cohorts of students entering the program, with some notable exceptions in recent years, has been small, on the order of 3-5 students in most years. These relatively small cohorts are generally consistent with the capacity of the program to support students and mentor them, but pose a problem for fielding core courses. The courses are problematic from an expense perspective if they contain so few students, and are also problematic from a pedagogical perspective, since a somewhat larger group generally is more dynamic in the range of perspectives and discussion.

Two alternatives are available to respond to this issue, short of significantly increasing the size of the program, which is not likely to be sustainable. The first is to broaden the appeal of these core courses in order to be able to attract an optimal number and increase the diversity of perspectives of students. This has been done in the case of 591, Research Design, which has drawn students from several programs, and to some extent with 593, Empirical Research, which has research workshop format, allowing students to undertake research leading to the development of a paper for journal submission. In the case of 592, Advanced Planning Theory, the potential to attract more students may be more limited given the scope of the course, but it could be marketed to Ph.D. students in the new Ph.D. program in the Built Environment, and could potentially be reshaped more into a course that emphasizes not only planning theory, but adds an evaluation research emphasis that would increase the integration with the current Research Design and Empirical Research courses.

The second strategy for dealing with the side effects of small cohorts on the core courses, not mutually exclusive with the first, is to alternate teaching among core faculty to relieve the teaching burden and accommodate rotation of faculty in these courses. This has already been implemented with 591, by rotating between Marina Alberti in UDP, and Bob Lee in Forestry. It appears to have worked well, though further work in coordinating the common elements of the syllabi could be valuable. A similar strategy may be available for 592, since Hilda Blanco has too many demands as Chair of the Department to be able to teach 592 every year (this year for example, the class was not offered, and there were no readily available alternatives). Bob Mugerauer and Don Miller might be able to alternate with Hilda Blanco in offering this course,

in order to be able to offer it annually. Again, efforts to increase the attractiveness of the course to other students would also be important here.

The problem of teaching load has not generally hampered the program from offering the three core courses annually, and the major emphasis would appear to be on improving class size and the quality of the content and interaction in these to best meet the needs of the students in the program. We propose to thoroughly examine the content of the three core courses and to use this assessment to further refine and integrate the core curriculum.

Regarding mentoring, first year students are being encouraged to finalize a full Advisory Committee during the first half of the first quarter, to facilitate the mentoring process. More senior students are also beginning to take an active role in assimilating and mentoring first-year students, and have significantly improved student mentoring.

12. The DUDP Chair should work with the Dean of CAUP to re-assign space in Gould Hall so that doctoral students will have both office space and a commons area. The DUDP faculty should encourage their graduate students to establish a weekly seminar.

One of the most difficult challenges faced by the program historically has been the lack of dedicated space for students. That long-standing concern has now been addressed, with Dean Robert Mugeraurer assigning Gould 418 exclusively to the PhD program as student office space and a commons area. In addition, a request to obtain scheduling priority for an underutilized classroom, Gould 442, has been submitted, in order to provide a seminar room that could be shared with the PhD Program in the Built Environment. The students have formed an active Ph.D. student group (called the 'Bowling League') to facilitate information exchange and the creation of a greater sense of community. Regular seminars and other activities are being coordinated by the students.

Summary Assessment of Program Effectiveness Since 1998 Review

Assessment of the results of these actions is difficult, since they are entangled with other factors that may have been changing internally and externally, but nevertheless, the results do look very encouraging for the program. The first evidence of this relates to student applications, which have almost doubled since the last review, from 34 in 1998-99 to 60 in

2003-04 (though certainly a weakening economy contributed to this). At the same time, the program was able to become much more selective in its admissions, with a denial rate that increased from 52.9% to 88.3% of applications over this period. Over the past four years, the percentage of applicants receiving offers has fallen to 10% or below, to 6.7% in 2003-04, from 29.4% in 1998-99. Remarkably, over the past two years, the program has been able to enroll 100% of the applicants to which it extended offers. These results are shown below in Figure 1.

While there are no single measures of the quality of the applications that are sufficient predictors of student success, GRE scores provide a partial assessment. On this measure, the verbal, quantitative, and analytical GRE scores of students accepted and enrolled in the program have been trending upward over the past five years, as shown in Figure 2, page 23.

We interpret these trends as resulting only partially from the strengthening of the curriculum. We attribute most of the positive effects to a dramatic increase in extramural funding for research and graduate fellowships that core faculty have been able to generate over the past several years. These new funds were key to the strategy adopted three years ago to leverage three 9-month Graduate School Fellowships with research funds and teaching assistanceships to extend the most promising applicants two-year, and in most cases three-year, funding offers. This capacity has been instrumental to being able to compete effectively for the top applicants, capturing 100% of those applicants we extended offers to over the past two years. The trends in research and fellowship funding have more than offset the gradual erosion of funding available from Teaching Assistanceships over the past several years of state and university budget constraints, though more effort will need to be made in the future to reverse the erosion in teaching support. These positive trends are shown in Figure 3, page 24.

Figure 1: Six-year Trends in Applications, Denials, Offers and Capture Rates

Figure 2: Six-year Trends in GRE Scores of Accepted and Enrolled Applicants

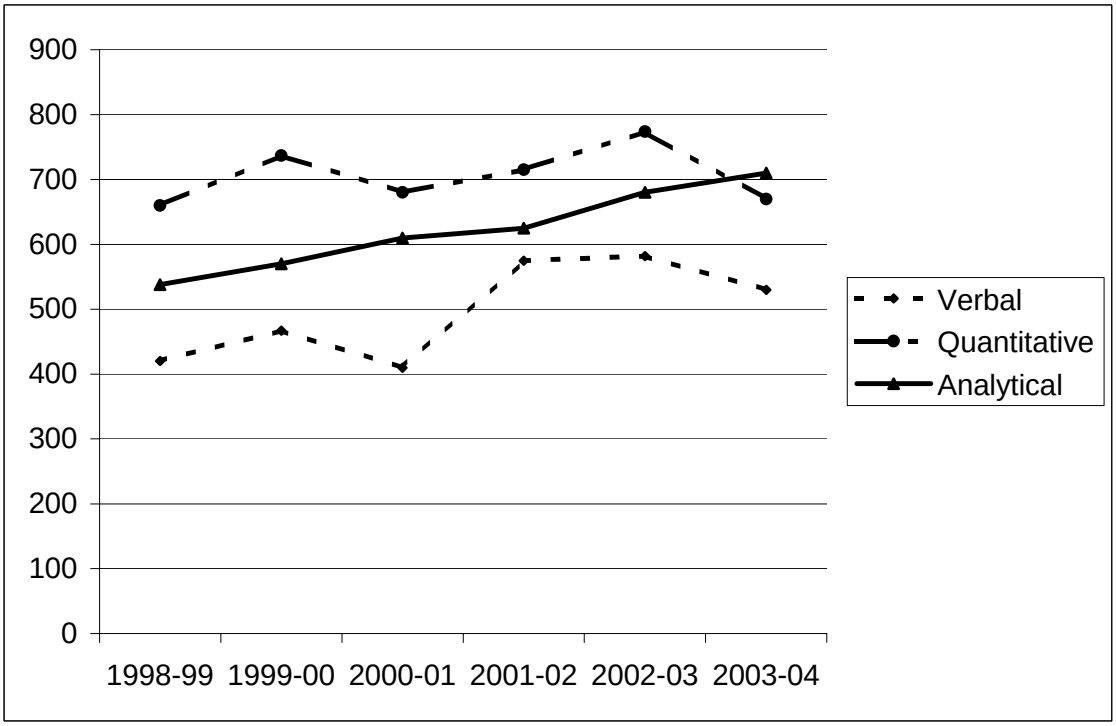

Figure 3: Six-year Trends in Financial Support for Students (Autumn Quarter)

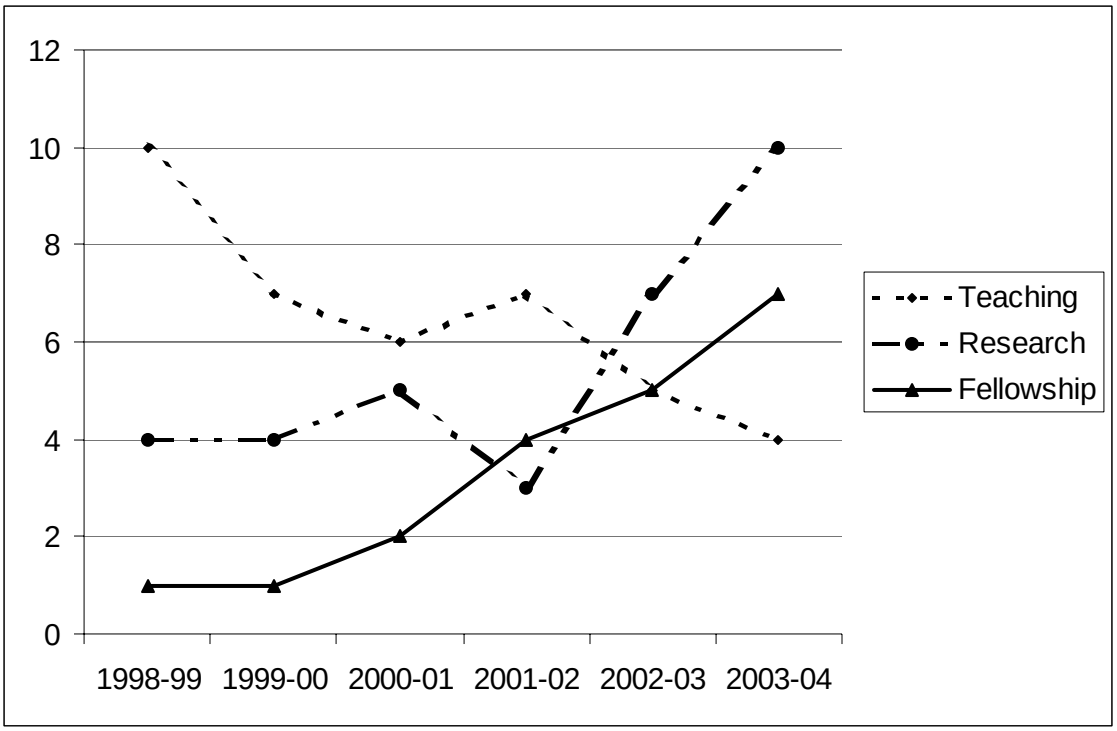

Figure 4: Student Support Distribution

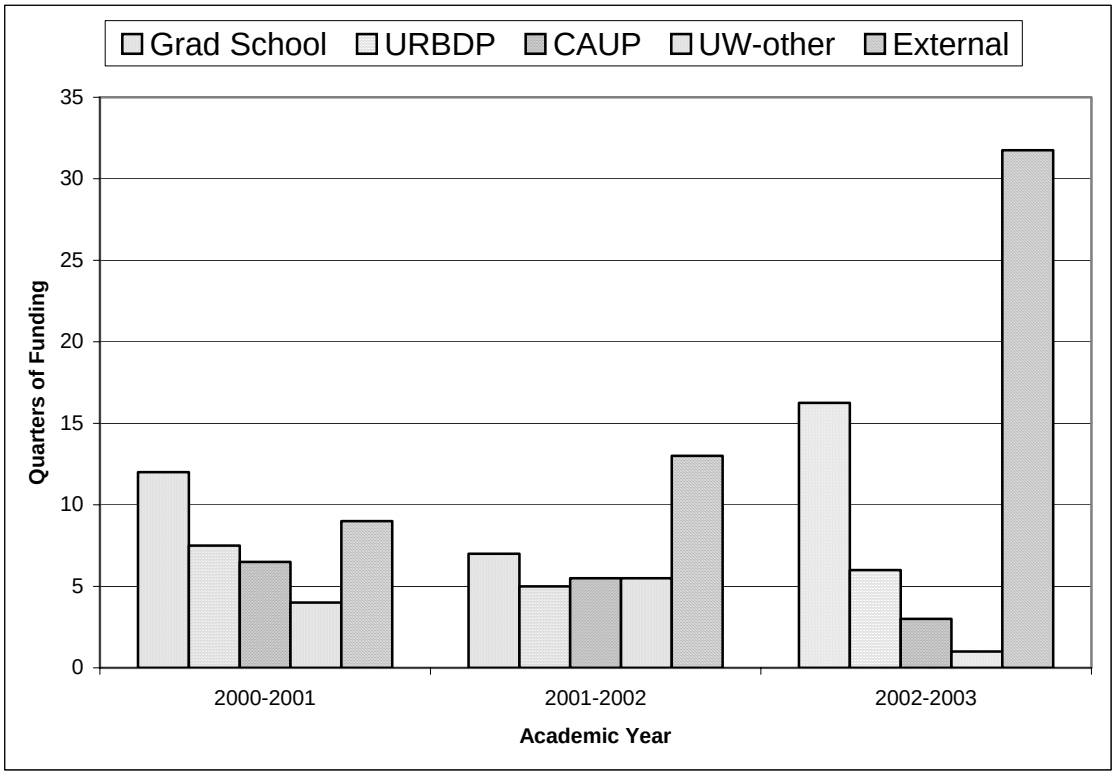

Figure 4 shows the distribution of student support in academic quarters for the Interdisciplinary PhD Program in Urban Design and Planning over the last three years. Student positions include Teaching Assistantships, Research Assistantships, Student Assistants, and Fellows over Autumn, Winter, and Spring Quarters. "Departmental – Other" refers to UW departments outside of the College of Architecture and Urban Planning. The External category refers to faculty research grants and three student fellowships received from national organizations. This trend confirms that the principal source of the rise in student funding is from external grant sources generated by program faculty.

An external assessment of the effectiveness of the program is from the 2000 National Doctoral Program Survey (available at http://survey.nagps.org), which surveyed over 32,000 students and recent graduates of Ph.D. programs. The survey considered information for prospective students, preparation for a broad range of careers, teaching and TA preparation, professional development, career guidance and placement services, controlling time to degree, mentoring, program climate, and overall satisfaction. The University of Washington Ph.D. Program was ranked first among Urban Planning Programs (slightly ahead of Harvard University) on Recommended Practices, an average of all scores other than satisfaction. Notably, 93% of students and graduates of this program gave positive responses regarding the mentoring they received in the program.

Internal assessment of program effectiveness is provided from several sources:

- Student evaluations from core courses provide systematic feedback from students on aspects of these courses that work particularly well, or need to be improved. The core courses, particularly research design (591) and empirical research (593) have been significantly restructured based in part on student feedback. The Steering Committee plans to undertake a more full-scale evaluation of the core courses in the next year.
- The placement of graduates provide compelling information on the effectiveness of the program in training and mentoring students. The evidence on placements is quite positive, with a comparatively high placement of students in academic positions, and others obtaining advanced positions in government and in the private sector. See Appendix E for a list of placements of program graduates.

- Funding for students is an important barometer of program effectiveness, for reasons outlined earlier: funding makes the program more capable of attracting its top applicants, facilitates active mentoring of students in research, and engages faculty from across the campus in interdisciplinary research in the domain of the program.
- Student publications also provide a valuable measure of the effectiveness of the program, and in this regard, the program has excelled in recent years. Over the past two years, seven currently enrolled students have had peer-reviewed journal papers published or accepted for publication in *Accident Analysis and Prevention, American Journal of Health Promotion, Canadian Society of Civil Engineering Journal, Gender Place and Culture*, *Journal of the American Water Resources Association, Journal of Planning Literature*, *Transportation Research Record*, and *Urban Studies*. In addition, students in the program have presented over 30 conference papers at the American Collegiate Schools of Planning Conference, the Transportation Research Board Conference, and numerous other domestic and international conferences. A listing of these papers and presentations is included in Attachment 6.

B. Research and Productivity

The core faculty in the Interdisciplinary Group, and in particular the faculty represented on the Steering Committee, have been extremely productive in obtaining extramural funding for research centered on the focus of this Ph.D. program, and this research funding has been instrumental to the strengthening of the program over the past several years. As detailed in Attachment 2, the 17 Core faculty currently have $23 million in grant funds, and the 16 Affiliate Faculty have another $14.5 million in external grants, for a total of $37 million. This is an average of over to $1,000,000 in current external grants per faculty member.

This faculty has been especially productive in obtaining large grants from federal sources, focusing on interdisciplinary research and education in areas the program emphasizes. During the 2002 academic year, the entire UW campus obtained $72 million in grants from the National Science Foundation. The faculty in this PhD program currently account for approximately $22 million in NSF funding, or roughly 31% of the 2002 campus total amount of NSF funding. The 17 Core faculty in the program generated approximately $15 million of this, representing approximately 22% of the university total funding from NSF. This level of concentrated productivity in extramural research funding from the

National Science Foundation is an extraordinary indication that the interdisciplinary chemistry generated by faculty collaboration is working exceptionally well.

The total NSF funding for core faculty: $15,598,394
The total NSF funding for non-core faculty: $7,014,798
Grand total URBDP PhD Prog. NSF funding: $22,613,192

Some of these key currently-active grants include:

Closely Related Research Grants:
(Note: these are not comprehensive – a more complete list is in Attachment 2)

- Biocomplexity: Modeling the Interactions Among Urban Development, Land Cover Change, and Bird Diversity. National Science Foundation, Biocomplexity. $1,128,818, September 2001-February 2005. (PIs: M. Alberti, P. Waddell, J. Marzluff, M. Handcock)
- Interaction and Participation in Integrated Land Use, Transportation, and Environmental Modeling. National Science Foundation, Information Technology Research. $3,500,000, September 2001-August 2006. (PIs: A. Borning, P. Waddell, B. Friedman, M. Gross, D. Notkin, Z. Popovic)
- Software Architectures for Microsimulation of Urban Development, Transportation, and Environmental Modeling. National Science Foundation, Digital Government, $600,000, September 2001-August 2004. (PIs: A. Borning, P. Waddell, D. Notkin).
- Application of UrbanSim to the Central Puget Sound. Puget Sound Regional Council. $450,000. 1/03-6/05. (PI: P. Waddell)
- Case Study of Application of UrbanSim to the Wasatch Front Area, Utah. Federal Highway Administration. $150,000; 9/02-3/04. (PIs P. Waddell, A. Borning)
- High Point HOPE VI Evaluation. Seattle Housing Authority. $167,951, March 21, 2001- June 30, 2005. (PI: Rachel Garshick Kleit)
- Peer Earthquake Performance Standards. National Science Foundation & Pacific Earthquake Engineering Research Center (PEER). $75,000/year, 3 years. (PI: R. Zerbe, S. Chang)
- Regulatory Risk, with UW School of Public Health & Carnegie Mellon University. Exxon-Mobile. $1,000,000, 3 years. (PI: Faustman, R. Zerbe)
- Dynamics of an Invasive Non-Native Species and its Biological, Physical, and Human Impacts: Spartina Alterniflora on the Pacific Coast". (with A. Hastings, S. Ustin, D. Strong, E. Grosholz), National Science Foundation, $3,800,000. (10/2000 - 9/2005).

- Southern California Beach Valuation Project" (with M. Hanemann, L. Pendelton, M. Ward), cooperative agreement between the Santa Monica Bay Restoration Foundation, California Department of Fish and Game, Southern California Coastal Water Research Program, California State Water Resources Control Board, Minerals Management Service, and the National Oceanic and Atmospheric Administration, $800,000+. (6/98 - ongoing).
- Bellevue, Redmond, Kirkland, and Issaquah Concurrency Study . Cities of Bellevue, Redmond, Kirkland, Issaquah. 10/2001-2003 $249,000. (Pis: Mark Hallenbeck, Anne Vernez-Moudon, Hilda Blanco, Dan Carlson)

Educational Grants:

- NSF IGERT in Urban Ecology. National Science Foundation IGERT. $2,700,000, September 2001-August 2006. (PIs: G. Bradley, M. Alberti, J. Marzluff, C. Ryan, and C. Zumbrunnen)
- Course and Courseware Development for Internet-based Graduate Level Programs Leading to a Master's Degree in Critical Infrastructure, Phase I. USGSA. $467,805 for Phase I; $361,515 for Phase II; 2002—2004. (PIs: H. Blanco, D. Szatmary)

C. Relationships with other units

The Interdisciplinary Group

The Ph.D. program has been governed by an Interdisciplinary Group of faculty that draws on several units from across the university. The program has recently designated core faculty within the broader Interdisciplinary Group by developing criteria based on level of involvement of involvement in teaching, advising, and funding. The 5 Steering Committee, 17 Core Faculty and 20 Affiliate Faculty represent the following mix of departments (to avoid double-counting, joint-appointments are counted in the primary administrative unit):

Table 1: Faculty Participation in the Program

Department	Steering Committee	Core Faculty	Affiliate Faculty
Urban Design and Planning	**3**	**7**	**2**
Architecture			3
Landscape Architecture		2	1
CAUP	**3**	**9**	**6**
Civil and Environmental Engineering		2	1
Computer Science and Engineering		1	
Evans School of Public Affairs	1	1	3
Forest Resources	1	2	2
Geography	1	1	4
Sociology		1	
Remainder of UW	**3**	**8**	**10**

Relationship to Department of Geography

The Dept. of Geography has had a long-standing involvement with the doctoral program in planning and urban design. This stems from the common focus on space and spatial distributions that concern both programs. The ties to geography have been related to the systematic and methodological aspects of the program, including specializations in geography

in the economic, urban, social, and political fields, as well as to courses in spatial statistics, cartography, and geographical information science. Courses at the senior and graduate level have had many UDP students enrolled in them over the years, and faculty from the department have played an active role in the supervisory committees of UDP doctoral students. The Steering Committee of the program has also generally had representation from the Department of Geography, reflecting ongoing involvement in the governance of the program.

Relationship to Evans School of Public Affairs

The Evans School of Public Affairs has had long-term involvement with the Department of Urban Design and Planning, and in the Interdisciplinary Ph.D. Program in Urban Design and Planning. Paul Waddell has a joint appointment in the Evans School and the Department of Urban Design and Planning, and is currently Director of the Ph.D. program. Other Evans School faculty currently involved in the program are Rachel Kleit, David Layton and Dick Zerbe. Rachel Kleit also has an Adjunct appointment in the Department of Urban Design and Planning.

The Evans School coordinated with the Department of Urban Design and Planning a Concurrent MPA/MUP degree program in 2000, and this provides additional venues for faculty and student exchange between the two units, including jointly-listed courses.

The Evans School is currently considering whether to pursue the development of a Ph.D. Program in Public Policy and Management. If this is pursued by the Evans School, there may be future opportunities to coordinate a concurrent program at the Ph.D. level, much like the Concurrent MPA/MUP degree in place now. To date, this has not been explored, and it is too early in the discussion of a potential Ph.D. program in the Evans School to consider at this time.

Relationship to the Department of Forest Resources

Since its inception, the IUDP program has enjoyed a close working relationship with faculty in the College of Forest Resources (CFR). CFR has provided an important source of teaching and research expertise on the ecology of natural ecosystems, issues involving land use planning in rural areas and on the urban fringe, and research methods appropriate to applied social science

research. CFR faculty are well represented in the Interdisciplinary group, with four members. Professor Lee has served on the IUDP Steering Committee for the last four years.

In the early years of this relationship, growth management was a central focus for cooperation. Urban ecology has replaced growth management as an integrating theme, and currently involves three faculty from CFR (Professors Bradley, Marzluff, and Ryan) along with faculty from Urban Planning (Professor Alberti) and Geography (Professor Zumbrunnen) in an NSF funded IGERT training grant. CFR and IUDP have recently taken steps to integrate courses that are suited to graduate students in both programs. In addition to the IGERT courses in urban ecology, Professors Lee and Alberti have agreed to alternate in teaching the core course in research design serving students in both programs.

Relationship to new CAUP Ph.D. Program in the Built Environment

The College of Architecture and Urban Planning initiated a new Ph.D. program in the Built Environment, which spans all the departments in the College. Faculty in Urban Design and Planning are potentially involved in both programs, and potential students need clarity about the relationship between the two programs and the differences between them.

The principal differences between the CAUP Ph.D. Program in the Built Environment and the Interdisciplinary Ph.D. Program in Urban Design and Planning are the following:

- Programmatic Focus:
    - The Interdisciplinary Ph.D. Program has identified several core areas of excellence to focus the program: urban design, urban ecology, urban simulation, land use and transportation, growth management, and real estate development. While not every student entering the program will fall into one of these areas, the substantial majority will.
    - The CAUP Ph.D. Program in the Built Environment is intended to provide a broad umbrella for interests that span the departments within the college: Architecture, Construction Management, Landscape Architecture, and Urban Design and Planning. The coordinating theme is the Built Environment, and three specializations have been identified within it: Sustainable Systems and

Prototypes, Computational Design and Research, and History, Theory, and Representation studies.

- Methodological Focus:
  - The Interdisciplinary Ph.D. Program emphasizes a balance of qualitative and quantitative research methods, in order to prepare students for advanced interdisciplinary research. The level of expertise required for students in research methods is clearly identified in the curriculum selection of restricted electives. The particular methods that are most widely used in program research efforts include spatial analysis techniques such as GIS and remote sensing, multivariate statistical analysis, and urban simulation.
  - The CAUP Ph.D. Program in the Built Environment draws on a variety of methodological approaches. It complements the approaches emphasized in the Interdisciplinary Ph.D. program by adding an emphasis in qualitative methods, particularly in history, theory and criticism.
- Nature of Interdisciplinarity. While both programs can be described as interdisciplinary, the locus of the disciplines involved differs between the two programs.
  - The Interdisciplinary Ph.D. Program involves a core set of faculty from the Department of Urban Design and Planning, with specific faculty from other departments in the College of Architecture and Urban Planning, and from the social and natural sciences, that are involved in one of the focus areas in the program. More than half of the core faculty in the program are from outside the College of Architecture and Urban Planning.
  - The CAUP Ph.D. Program in the Built Environment draws faculty principally from the departments in the College, with selected members from the social sciences and humanities.

Material on the College of Architecture and Urban Planning web site regarding the two Ph.D. programs (http://www.caup.washington.edu/phdprograms/) summarizes the two programs as follows:

PhD Programs

College-Wide Ph.D. Program in Built Environment

The Ph.D. in the Built Environment is a new (2003) college-wide, interdisciplinary degree program housed within the College of Architecture and Urban Planning. The Ph.D. Program provides students with a common core of substantial, integrated knowledge concerning the multi-faceted built environment and then offers areas of specialization in three discrete fields of knowledge and practice:

1. Sustainable Systems and Prototypes
   (across a range of scales, from building elements & assemblages, to buildings, site & neighborhood context, city, and region)
2. Computational Design and Research
   (covering the spectrum of design, planning, and construction processes, practices, and pedagogy)
3. History, Theory, and Representation studies.
   (focusing on issues of regional-global modernity)

Interdisciplinary Ph.D. Program in Urban Design and Planning

The Interdisciplinary PhD Program in Urban Design and Planning, launched in 1967, has evolved into a dynamic interdisciplinary PhD program centered in the Department of Urban Design and Planning and drawing on the broad intellectual resources of the University of Washington and on the laboratory provided by the Seattle metropolitan region and the Pacific Northwest. The intellectual focus of the Ph.D. program is unique in bringing together interdisciplinary perspectives from the social and natural sciences, and applying them to the formation and evaluation of urban and environmental designs, plans and policies.

- It seeks to explore interactions among built urban form; urban markets for real estate, labor, public services and infrastructure; urban social and political institutions and processes, and urban ecological patterns and processes. Study of these interactions draws on the disciplines of economics, geography, history, sociology, political science, and ecology, among others.
- It seeks explore ways of applying the interdisciplinary understanding of these interactions to informing the development and evaluation of designs, plans and policies related to land use, housing, transportation and other infrastructure, and the environment. These applications draw

on the fields of urban planning, urban design, landscape architecture, forest resources, policy analysis, and civil engineering.

- It seeks to employ research methods and approaches that promote advancement of theory and the empirical testing of theory, in order to make contributions to the advancement of scholarship and practice in the areas of urban and environmental design, planning and policy. Research methods range from qualitative to quantitative techniques, including such techniques as GIS and simulation modeling.

Relation of the Two Ph.D. Programs

The two Ph.D. Programs are complementary to each other and have many faculty in common, but have distinctive foci.

The Interdisciplinary Ph.D. in Urban Design and Planning is centered in the Department of Urban Design and Planning, and is managed by an Interdisciplinary Faculty Group that draws on units from across the campus. This Program has developed nationally recognized strengths in urban design, urban ecology, land use and transportation, and urban simulation. Its faculty have obtained substantial extramural funding from the National Science Foundation and a range of federal, state and local agencies that support students' research experience. Research facilities such as the Urban Ecology Lab, the Northwest Center for Livable Communities, the Runstad Center for Real Estate, and the Center for Urban Simulation and Policy Analysis also provide venues for student engagement in interdisciplinary research that are closely related to the research foci of the Ph.D. Program.

The Ph.D. in the Built Environment is a College-wide program that comprehensively includes all aspects of faculty interests and departmental expertise in areas of design, planning, forms and materials, construction, ecological-sustainability issues, and historical-cultural factors. The focus on the built environment (which includes artificial-digital environments and the impact of development on natural environments) is carried out through the three specializations, with special attention to design and historical-cultural issues. Opportunities for interesting research projects arise not only in the areas of CAUP faculty activity and that of associated UW faculty, but through the College's research units such as the Design Machine, the Institute for Collaborative Building, the Northwest Center for Livable Communities, the Runstad Center for Real Estate, Hazard Mitigation Planning and Research, UW BASIC Initiative, CEEDS, the Urban Ecology Research Laboratory, Preservation Planning and Design, and Urban Design.

D. Diversity

The program places a high value on student and faculty diversity, and strives to achieve diversity within the current legal constraints imposed by Washington's Initiative 200, which curtailed many previously available means of promoting diversity at the University of Washington.

The current students in the program reflect the following pattern of diversity:
24 students total
Women/men = 9 women (38%), 15 men (63%)
4 US minority (17%)
11 International (46%)

With 8 international students of Asian heritage, the combined domestic and international percentage of students that is of minority ethnicity is 50%, which is well above the 24% average listed in 1998 for Doctoral Programs in Planning[1]. Of these non-white students, however, only one is black and one is Asian Indian. The percentage of female students is slightly below the national average of 42%.

The Ph.D. program has submitted a diversity plan to the University's GO-MAP program to seek funding for new students. Since we admit a small cohort of students in the program every year, averaging 4-5, we have set an aim of seeking financial aid for at least one student from an underrepresented group annually. If we are successful, this will build a cohort of 3-4 underrepresented students in an overall student body of about 20, over 3-4 years. Among the strategies included in the diversity plan are the following: redesigning the web site of the program to highlight our diversity efforts, including programs of study and faculty that may be of particular interest to students who wish to explore in their discipline content on diversity; special mailings to Masters programs across the country with high diversity enrollments, inclusion of factors to help improve diversity in the admissions process, including mention of factors such as economic and educational disadvantages, overcoming personal diversity, etc. in the required personal statement in the application; building bridges with programs at the UW such as the McNair Scholars Program and Elderly Identification Program (EIP) which offer departments opportunities to mentor prospective graduate students.

[1] Report of the Sub-committee on the Recruitment and Retention of Women and People of Color, ACSP Doctoral Committee, October, 2002.

E. Degree Programs

a. Describe the objectives of your doctoral degree program(s) in terms of student learning and other relevant outcomes, as well as its benefits for the academic unit, the university, and region. Compare your objectives with those for programs at institutions you think of as peers. (Please attach a curriculum description as an appendix to this report.)

The Program seeks to prepare scholars who can advance the state of research, practice, and education related to the built environment and its relationship to society and nature in metropolitan regions throughout the world. The program provides a strong interdisciplinary
educational experience that draws on the resources of the entire university, and the laboratory provided by the Seattle metropolitan region and the Pacific Northwest.

An attachment has been compiled (see Attachment 1) comparing this program to peer programs at Cornell, Harvard, Massachusetts Institute of Technology, Portland State University, the University of California, Berkeley, University of California, Los Angeles, University of Illinois – Urbana Champagne, University of Michigan, University of North Carolina, Chapel Hill, University of Pennsylvania, and University of Wisconsin – Madison. This program is perhaps most similar in size and scope to the program at Berkeley, but is relatively unique among these peer programs in its areas of excellence in urban design, urban ecology and urban simulation.

b. Describe the standards by which you measure your success in achieving your objectives for doctoral program(s). Using these standards, assess the degree to which you have met your objectives. Indicate any factors that have impeded your ability to meet your objectives and any plans for overcoming these impediments.

Standards used in evaluating the effectiveness of the program in achieving its objectives include:

- Extramural research and fellowship funding

  The program has generated an unprecedented amount of funding, especially from large-scale, interdisciplinary programs at NSF, accounting for more than a quarter of all NSF funds obtained by UW in the 2002 academic year.
- Engagement of faculty from across the university in interdisciplinary research

The Steering Committee, Core Faculty, and Affiliate Faculty reflect a balance of approximately half of the faculty from 6 units outside the College of Architecture and Urban Planning, indicating a strong level of engagement in the program.

- Evaluation of the program by students

  In the 2000 National Doctoral Program Survey of students and graduates, this Ph.D. program was ranked first among Urban Planning Doctoral Programs.

- Placement of graduates

  Students have been effectively placed into academic positions as well as in government and the private sector in the U.S. and abroad. The program has a high proportion of placements in academic planning positions in the U.S.

c. How do you mentor doctoral students for each of the roles (research, teaching, leadership) they are likely to assume? How do you prepare those who will be employed outside higher education? How do you encourage and support the variety of career choices available to your doctoral students?

Mentoring of students in research and teaching has been formalized in a Funding and Mentoring Strategy adopted by the program in the Spring of 2001. It spells out a strategy for using a first-year fellowship to allow a student to focus on meeting core requirements while playing an apprentice role in a research project. The second year focuses on mentoring teaching and more active engagement in research and publication, and beyond the second year the focus is on mentoring increasingly independent scholarship and publication. Funding is critical to this strategy, and a process of leveraging Graduate School Fellowships with Teaching Assistantships and Research Assistantships has been incorporated.

While there is no formal mentoring process for career opportunities outside of academia, planning is an applied field and involved substantial interaction with the public and private sectors. It is through these interactions that students learn about non-academic career options. Many of the incoming students already have professional experience, which also aids in the mentoring of other students lacking this experience.

d. How are you staying informed of the career options that graduates of your program typically pursue and the success they are obtaining? How are you using this information in departmental planning?

The program attempts to keep in touch with graduates and to follow their careers. A compilation of the current placement of former graduates is included in the appendices. Frequent interaction in planning conferences and other venues makes this quite natural for those students pursuing academic careers in planning.

The feedback from recent graduates is valuable in monitoring job market conditions, the changing circumstances within diverse workplace environments, and information about aspects of the program that have been found to be more or less helpful to recent graduates. This feedback is generally informal.

F. Graduate Students

1. Recruitment and retention

a. Please describe recruitment/outreach programs to attract graduate students. Describe the measures you use to assess the success of your efforts. How successful have they been?

Recruitment and outreach have by the program have been limited principally to development of a web-site for the program that provides information on the curriculum, program faculty, participating units, and research centers and projects. In addition to this, participation by program faculty and students in conferences such as ACSP provides visibility for the program, as do publications in planning journals, and editorship roles of program faculty. While these are relatively modest efforts at outreach, the program has seen a rapid increase in applications, and as noted elsewhere in this report, the rates of acceptance have dropped to under 7% in 2002-03.

b. What are your retention rates for master's and doctoral programs? To what do you attribute attrition? What steps are taken to minimize attrition?

Retention rates in the program are quite high. There have been less than five students that have dropped out of the program over the past several years. One student opted to switch to the MUP program based on difficulty in making progress, and another was terminated from the program after an extremely long period without sufficient progress. The others are students that have gone on extended leaves of absence from the program for a variety of personal reasons, and may return to active participation in the future. The most important step the program has taken have been to improve the level of funding to engage students actively in research, which has proven an effective antidote to

students becoming too distracted by the need to take outside employment. After this, improving clarity of expectations at each phase of the program has been helpful.

2. Describe your academic and career preparation mentoring practices.

Academic and career mentoring are pursued as described in the program Funding and Mentoring Strategy (see Attachment 8). The program focuses in its core courses in socializing students into the practice of becoming producing interdisciplinary scholars with a focus in planning, emphasizing the development of capacity to critically analyze literature, frame research questions and testable hypotheses, and select and apply appropriate methods for the research. By the end of the first year, students should have a working draft of a paper for submission to a journal. A second part of the strategy is engagement of students in an active research project of one or more faculty members, as research assistants. There are several research centers and laboratories within which students are actively engaged in research with faculty, and this provides the most direct form of apprenticeship in developing a complete process of mentoring the research dimensions of the career, whether in academia or elsewhere. In addition, the program emphasizes mentoring in teaching, and has developed a close relationship with the undergraduate Community Environment and Planning program. Finally, the program financially supports and actively encourages students to present papers in planning-related conferences – most notably the American Collegiate Schools of Planning conference and the Transportation Research Board Conferences. Mentoring for careers in non-academic positions is not formally provided, though program faculty have considerable experience in the public and private sector, and extensive networks, that are frequently used in informal mentoring and advising.

3. Inclusion in governance and decisions

a. In what ways do you include graduate students in the governance of your department?

Two students in the program are included in the Steering Committee for the Ph.D. program, and participate in all program discussions that do not relate to student concerns that would be inappropriate for their involvement. Students participated in the strategic planning process in 2000-2001, and also in the preparation of materials for this self-study. Students also have developed proposals for the student tech-fee program, to request funds for computing facilities. In addition, students are actively engaged in organizing the annual symposium, and have organized a student association called the Bowling League.

b. Please describe your grievance process and characterize the nature of any grievances that have been lodged over the past 3 years. If the characterization is likely to reveal any students' identities, please address this issue in a separate but accompanying document addressed to the Dean of the Graduate School.

The program relies on standard Graduate School procedures for grievance. When a potential grievance issue arises, appropriate parties are convened (sometimes with the departmental coordinator as a third party) and a workable solution is determined.

4. For graduate student service appointees, please describe:

a. Appointment process.

The process varies on the type of appointment. Teaching Assistants are sometimes interviewed to determine the level of experience and background. Research Assistantships are generally determined based on a match of research interests between the student and faculty member. Please see Attachment 8, Funding and Mentoring Strategy for more details.

b. Average duration of appointment.

Duration of appointment varies from 3-12 months, with the average being 9 months.

c. Mix of funding among the various appointments (teaching, research and staff assistantships, fellowships, traineeships).

The program has 3 nine month Research Assistantships in its allotment from the Graduate School. These are primarily used to fund students in their first year while being mentored in a research project. Their second and third years they participate in an externally funded research project under faculty supervision. Eight students in the program are currently funded on 12 month stipends. Others have 3-9 month research and teaching assistantships from the Urban Design and Planning Department, the College of Architecture and Urban Planning, externally funded projects and other campus sources. Please see Attachment 3 for a breakdown of funding sources over the last three years.

d. What criteria do you use for promotions and salary increases?

Salary increases for research and teaching assistantships are determined based on academic progress and the UW Graduate Student Service Appointment salary schedule. Stipends are determined by the funding agency.

e. In what ways are graduate student service appointees supervised?

Research and teaching assistantships are supervised by the faculty member under which the student works.

f. What training do graduate student service appointees receive to prepare them for their specific role?

Students are generally mentored for teaching and research assistantships in their first year while being funded by a graduate school research assistantship or an externally funded stipend. Please see Attachment 8 for the details of the funding and mentoring strategy.

Summary of Key Findings

Key actions the program has taken since last review in 1998:

The program has made tremendous strides since the last review in 1998, and has worked hard to address concerns that limited the potential of the program. As discussed in this self-study, the major steps that have been implemented since 2000-2001 include:

- Adopting a clear interdisciplinary vision and intellectual focus for the program.
- Identifying substantive and methodological areas of excellence.
- Redesigning the curriculum and raising standards within it.
- Reconstituting the Interdisciplinary Group faculty.
- Designating core faculty as the subset that actively govern the program.
- Obtaining substantial increases in extramural research and fellowship funding, especially from the National Science Foundation and other interdisciplinary initiatives.
- Implementing an effective funding and mentoring strategy, with multi-year funding offers to top applicants.
- Developing an innovative relationship with the Community Environment and Planning (CEP) undergraduate program to mentor Ph.D. students in teaching, while advancing undergraduate education and exposure to research.
- Obtaining dedicated space in Gould Hall for students in the program.
- Clarifying governance (the Core Faculty), central unit (Urban Design and Planning) and administrative placement of the program (the Graduate School).
- Building more effective links between Core Interdisciplinary Group Faculty and the Department of Urban Design and Panning through joint and adjunct appointments.
- Creation by students of an active and engaged student community, via the 'Bowling League', with increasing involvement in mentoring students.

Assessment of Effectiveness:

- An external assessment of the effectiveness of the program is from the 2000 National Doctoral Program Survey (available at http://survey.nagps.org), which surveyed over 32,000 students and recent graduates of Ph.D. programs. The survey considered

information for prospective students, preparation for a broad range of careers, teaching and TA preparation, professional development, career guidance and placement services, controlling time to degree, mentoring, program climate, and overall satisfaction. The University of Washington Ph.D. Program was ranked first among Urban Planning Programs (slightly ahead of Harvard University) on Recommended Practices, an average of all scores other than satisfaction.

- Student applications have almost doubled since the last review, from 34 in 1998-99 to 60 in 2003-04. At the same time, the program was able to become much more selective in its admissions, with a denial rate that increased from 52.9% to 88.3% of applications over this period. Over the past four years, the percentage of applicants receiving offers of admission has fallen to 6.7% in 2003-04 from 29.4% in 1998-99. Remarkably, over the past two years, the program has been able to enroll 100% of the applicants to which it extended admissions offers.
- The core faculty in the Interdisciplinary Group, and in particular the faculty represented on the Steering Committee, have been extremely productive in obtaining extramural funding for research centered on the focus of this Ph.D. program, and this research funding has been instrumental to the strengthening of the program over the past several years. As detailed in Attachment 2, the 17 Core faculty currently have $23 million in grant funds, and the 16 Affiliate Faculty have another $14.5 million in external grants, for a total of $37 million. This is an average of over $1,000,000 in current external grants per faculty member.
- This faculty has been especially productive in obtaining large grants from federal sources, focusing on interdisciplinary research and education in areas the program emphasizes. During the 2002 academic year, the entire UW campus obtained $72 million in grants from the National Science Foundation. The faculty in this PhD program currently account for $22 million in NSF funding, or roughly 31% of the 2002 campus total amount of NSF funding. The 17 Core faculty in the program generated almost $15 million of this, representing approximately 22% of the university total funding from NSF. This level of concentrated productivity in extramural research funding from the National Science Foundation is an extraordinary indication that the

interdisciplinary chemistry generated by faculty collaboration is working exceptionally well.

Future Actions to be Taken:

While much has been accomplished, producing tangible positive results for the program, more can and will be done to strengthen the program in the future. The following are some of the steps that remain for future action:

- Assess the effectiveness of the core courses, and refine them as needed, with particular attention to the need to increase class size by making the courses attractive to students from other Ph.D. programs such as Geography, Sociology, Political Science and Forestry. This would address a pedagogical concern about class sizes that would bee too small if limited to the typical incoming cohort size of 3-5 students.
- Address a teaching load concern by involving on a rotation basis more core faculty in the core courses.
- Assess the courses listed as restricted electives, and refine this based on student and faculty assessment.
- Assess the recently implemented first-year portfolio as an evaluation strategy for the first year, and make any needed refinements.
- Continue developing collaboration among Interdisciplinary Group Faculty to obtain external funding for advancing interdisciplinary research and education related to the program.
- Increase the diversity of students and of faculty within the Interdisciplinary Group.