

UMORE PARK STRATEGIC PLAN



Sasaki Report to the University of Minnesota Outreach,
Research, and Education Park Steering Committee

UMORE PARK STRATEGIC PLAN

Sasaki Report to the University of Minnesota Outreach,
Research, and Education Park Steering Committee

Prepared by

Sasaki Associates Inc.

in association with:

Economics Research Associates

Dahlgren, Shardlow & Uban

Fredrikson & Byron, P.A.

22 September 2006

Mr. Charles C. Muscoplat
Vice President, Statewide Strategic
Resource Development
University of Minnesota
526 McNamara Alumni Center
200 Oak Street, SE
Minneapolis, MN 55455

Mr. Larry Laukka
Distinguished Fellow
Executive Director, UMore Park

re: Transmittal of UMore Park Strategic Plan Report from Sasaki Associates, Inc. to the UMore Park Steering Committee

Dear Charles and Larry:

The purpose of this letter is to transmit the Sasaki Associates, Inc. (Sasaki) report for the UMore Park Strategic Plan. This report documents key Sasaki findings, analyses and conclusions regarding the vision and recommendations for the future of UMore Park. Sasaki has completed a comprehensive strategic visioning process for this extraordinary urban-rural fringe property located in the City of Rosemount and Empire Township within Dakota County. The results of this process, conducted on behalf of the UMore Park Steering Committee, are documented in this report and the Steering Committee's Vision/Recommendation Report.

The strategic planning process for UMore Park resulted in the consideration of three distinct scenarios that are plausible options for the Board of Regents to consider in meeting the University's guiding principles for future use of UMore Park, and to advance the University into the world's top three public research institutions. As a result of the comprehensive planning process, which has included extensive analysis, research, planning, stakeholder outreach and deliberation, Sasaki strongly and clearly recommends that the University adopt and move forward with *Scenario C: Develop a New Community*. The balance of this letter summarizes the planning process ("what Sasaki did"); the analysis, research and planning ("what Sasaki found"); and further discussion on the recommended scenario ("what Sasaki concluded").

1. The Planning Process ("what Sasaki did")

The UMore Park strategic planning process was based on thorough consideration of the following cornerstones:

- Regent's Principles for UMore Park
- "U" Strategic Plan
- Site and market analyses
- UMore's history
- The stadium land legislation

- Faculty workshop and meetings
- Community stakeholder workshop and meetings
- Sustainability goals

Commencing in February 2006, Sasaki and its team members analyzed regional and site attributes, real estate trends and market conditions, relevant public policies and regulatory issues, development goals of adjacent property owners, and engaged in internal and external stakeholder outreach to assess the opportunities and constraints anticipated in establishing a vision and development concept for UMore Park.

The process revealed that:

- There is strong support of a new type of creative, knowledge-based planned community at UMore Park that would include a broad range of land uses such as residential, commercial, corporate, institutional, civic, cultural, and recreation uses set within a connected open space system. University association with this new community is critical to the full actualization of the UMore project.
- The legacy of UMore Park should be its contribution to the University as it evolves from an agricultural asset to significantly broader public resource and asset for the citizens of Minnesota.
- There is a need for immediate and sustained actions by the University to develop a specific plan and development strategy for UMore Park, and to begin the implementation of the plan in the very near future. There is also an immediate opportunity to create a specific development program and land use plan for UMore Park in cooperation with the City of Rosemount and Empire Township that can leverage significant support and benefits for the property. The University should be proactive versus reactive to the many forces and shapes which are impacting, and will continue to impact, the property. Moreover, this project will continue the University's legacy of good stewardship of this valuable public resource.

2. Analysis, Research and Planning ("what Sasaki found")

UMore Park is an excellent place and location for a new creative, knowledge-based master planned community that expresses the aspirations and principles of the University. The results of the physical land analysis clearly indicate that the property is highly suitable for the development of a large-scale new community. There are few natural or manmade constraints to develop, and many impressive features that will complement a new community such as good access, topographic factors, vegetation patterns, streams and wetlands.

Regional growth pressures are unabated and UMore Park is evermore in the center of the continuing growth of Dakota County. Development patterns that have been moving toward UMore Park from the west and north are now moving over UMore Park to the south and east. Moreover, the City of Rosemount will soon update its comprehensive

plan, which is an opportunity for the University to proactively engage in a planning process to cooperatively define the future vision of UMore Park with the City.

This strategic planning process revealed an opportunity to create a new type of master planned community with the University's imprimatur. This new community can be an international model for better ways to live, work, learn and play in a sustainable manner, while providing opportunities for mission advancing research, education and outreach.

The new community at UMore Park should be based on three foundations that will define 21st century life:

- *Education and lifelong learning*, which is needed to prepare children for a more competitive future, and to ease the transitions in life for adults with an ever-increasing life expectancy.
- *Healthy living and wellbeing* is evermore important to society and can offer an integrated approach to improved quality of life that addresses innovations in food; diet and nutrition; recreation; design for home, work and community; healthcare; mental health; youth services and social work; and care for an aging population.
- *Protection of the natural environment and futuristic energy efficiency* can be advanced at UMore Park through a strong University association. It will be a place for public-private partnerships with the University to advance research, discovery, design and create new technologies, forms of renewable energy, energy-conserving systems for cold climates, and delivery of more sustainable community services.

3. Recommendations and Next Steps (“what Sasaki concluded”)

The strategic planning process created and considered many ideas and concepts for the development and management of UMore Park. The process ultimately identified three distinct scenarios that could be plausible options for the property to meet the guiding principles for UMore Park:

- Scenario A: Hold Land without Development
- Scenario B: Sell Land at Wholesale Prices
- Scenario C: Develop a New Community with University Signature and Imprimatur (recommended by Sasaki)

Scenario A: Hold Land without Development

In Scenario A, the University would delay action and “land bank” the property without development. The University would assume the role of patient landowner, and choose to hold, but not sell, the land for approximately ten years.

During this period, the University would continue its current land uses; however, it would need to enhance revenue from current and future tenants to fund ongoing

operational costs. The University could also begin preparation for future development such as removing existing concrete and reconcile the consequences of the Gopher Ordinance Works.

Scenario B: Sell Land at Wholesale Prices

In Scenario B, the University would sell undeveloped land at wholesale prices to developers in minimum-sized parcels, priced according to market conditions, over an extended period of 15 to 20 years. Development of these parcels by others would be subject to predetermined comprehensive plans defined by the City of Rosemount and Empire Township. The property would be used by the University or leased to third parties until sold.

Scenario C: Develop a New Community with the University Signature and Imprimatur (recommended by Sasaki)

In Scenario C, which Sasaki strongly endorses, the University would prepare a master plan for a new type of knowledge-based master planned community under University auspices. The new community could eventually include 20,000 to 30,000 residents that are living, working, learning and playing in an internationally significant model environment designed on the principle of lifelong learning, healthy living and energy sustainability.

The University could be the master developer and partner with one or more renowned developers or entities, or with new entities created by the University, to develop the new community. The University would prepare the land for development by building infrastructure and open spaces, and oversee the actual development by builders, either itself or with development partners. The University would manage the comprehensive master planning for the entire 5,000 acres, and would participate in the planning for the adjacent 2,480-acre parcel to the south that is now under joint management of the University and the DNR through 2032. The University has the unique ability to further its research, academic and outreach mission, and imbue the new community with innovative features that will make it an international model for 21st century community planning and development. The University's signature on the community will substantially increase value and contribute to economic growth in the region and the state.

To realize this recommendation for a new community, the following next steps should be considered:

- Create a UMore Park property development team to complete the necessary planning and pre-development process, and provide ongoing management of the development process.
- Create a concept master plan that defines specific land uses and infrastructure requirements.

- Identify a “Phase 1” Mixed-Use Development Plan with specific infrastructure requirements and costs.
- Select a planning consultant to prepare the concept and Phase 1 plan, and a development consultant to bring realistic real estate development experience to this process.
- Determine a governance structure for developing and managing the new community for what is likely to be a twenty-five to thirty-year development period.
- Work with the City of Rosemount, Empire Township and Dakota County to define jurisdictional, planning and service requirements for the new community.
- Prepare a business plan to extract the valuable gravel and to monetize the extensive onsite concrete resources on the property.
- Prepare a business plan with appropriate public, private and institutional partners to share in the funding and construction of mutually-beneficial and collaboratively-owned facilities that are part of the new community.

On behalf of the Sasaki team, we wish to express our sincere appreciation and enthusiasm for being part of this exciting and rewarding strategic planning process for UMore Park. The future of this extraordinary new community is brilliant, and will provide a trail for others to follow into the 21st century.

Respectfully,



Frederick L. Merrill, AICP
Principal-in-Charge



Willa Small Kuh
Project Manager

ACKNOWLEDGEMENTS

The project team would like to acknowledge the following people for their contribution to the strategic planning process.

University of Minnesota – UMore Park Steering Committee

Charles C. Muscoplat, Vice President, Statewide Strategic Resource Development

Larry Laukka, Executive Director, UMore Park

Carla Carlson, Assistant Vice President, Statewide Strategic Resource Development

Greg Cuomo, UMore Park Director of Operations (as of October 15, 2006)

Michael W. Denny, Director of Development Services, Capitol Planning and Project Management

Thomas Fisher, Dean, College of Design

L. Steven Goldstein, Vice President for Strategic Initiatives, University of Minnesota Foundation

Kathryn Johnson, Director of Diversity Initiatives, Carlson School of Management

Philip O. Larsen, UMore Park Director of Operations (through October 15, 2006)

Kenneth Larson, Director of Transactional Law Services, Office of the General Counsel

Stuart Mason, Associate Vice President, Asset Management

Dewey Thorbeck, Director, Center for Rural Design

Linda Thrane, Vice President, University Relations

Susan Carlson Weinberg, Director of Real Estate



TABLE OF CONTENTS

EXECUTIVE SUMMARY

INTRODUCTION

1.0 PLANNING PROCESS

- 1.1 Introduction
- 1.2 Overview of the Planning Process
- 1.3 Matrix of Development Options

2.0 SITE ANALYSIS

- 2.1 Introduction
- 2.2 Site Characteristics and Context
- 2.3 Site Resources
- 2.4 Tenants, Contracts and Commitments

3.0 UMORE PARK MARKET ANALYSIS AND DEVELOPMENT STRATEGY

- 3.1 Introduction
- 3.2 Market Analysis and Development Strategy
- 3.3 Consideration of National Developers and Successful Development Models

4.0 PROGRAM AND PHYSICAL PLAN OPTIONS

- 4.1 Introduction
- 4.2 Community Design Precedents
- 4.3 Potential Program Elements
- 4.4. Potential for Arts and Culture Parks
- 4.5 UMore Park Land Use Capacity

APPENDIX

- A UMore Park Steering Committee Subcommittee Reports
- B Summary of Recent University Planning Studies
- C Gopher Ordinance Works
- D Land Ownership



EXECUTIVE SUMMARY

This notebook is record of the efforts undertaken by the Sasaki Team¹ in support of the UMore Park Steering Committee. The breadth of the study was broad — from meetings with University officials, neighbors of the site, and local government officials to ascertain their desires for the land to the analysis of the land’s potential capacity to accommodate long-term growth. At times, the Sasaki Team worked in parallel with the UMore Park Steering Committee: the Sasaki Team proposed a wide range of potential uses to be developed on the land while the Steering Committee investigated how best to fully realize the University’s land grant mission at UMore Park in this century.

The process was a lively one, with what can only be described as rigorous discussion around shared values. What follows is a description of a special community whose identity is linked to the University, an image that emerged through this process. With it are recommendations that the Sasaki Tem feels are critical for the University to undertake to realize this vision.

KEY FINDINGS AND RECOMMENDATIONS

The following findings and recommendations are respectfully submitted by the Sasaki Team to the UMore Park Steering

Committee for their consideration as recommendations to be submitted to the University of Minnesota’s Board of Regents.

1. The role of land grant institutions is changing, specifically their expansion beyond traditional agricultural programs in the earlier days of agrarian-based economics. In a paper on the land grant university’s role in economic development,² University President Robert H. Bruininks emphasizes the need to bring the full portfolio of University research to the public through education, life-long learning and engagement. According to President Bruininks, land grant institutions must now focus broadly on promoting the health of the population, the environment and the economy. He identifies the compelling needs and opportunities of today’s economy as being healthcare, education and life-long learning, entrepreneurship, application of new technologies, workforce development, and support for small businesses. UMore Park provides the University of Minnesota with an excellent opportunity to contribute to regional competitiveness, interdisciplinary innovation and enhanced delivery systems.³
2. UMore Park’s real estate value is obvious, and growing. Located in the center of Dakota County, one of the

¹ The Sasaki Team includes Sasaki Associates (overall project direction, land use planning and institutional strategic planning); Economics Research Associates (market research, financial planning and modeling analysis); DSU Inc (environmental planning and community understanding); and Fredrikson & Byron (legal and regulatory issues).

² “Regional Economies in Transition: The Role of the Land Grant University in Economic Development”

³ *ibid.*

fastest growing counties in the region, the UMore Park property extends into the City of Rosemount, where the population is projected to increase by 60% in the next fifteen years. According to the Minneapolis Star-Tribune, “once just another plot of land in a sea of farm fields, UMore Park is now at ‘the eye of the needle’ as development expands to the southeast.”⁴ As a large contiguous land holding near a major metropolitan center, UMore Park’s value has outstanding potential. By developing UMore Park as a mixed-use community, the University can generate significant revenue to serve its mission and create a model community that fulfills the University’s land grant mission.⁵

3. It is incumbent upon the University to examine opportunities to support a vision for UMore Park that is consistent with the University’s land grant mission, the Regents’ principles and the University’s goals for strategic positioning. Sale of some of the UMore Park lands for development of a community will offer the highest financial value for the use of the land and can be executed in support of University and UMore Park vision and mission.
4. At this writing, analysis and research of UMore Park’s development potential suggests there is broad support and financial viability to transform UMore Park into a community that is a model of sustainability and is closely identified with University of Minnesota with a focus on education, health and the environment.

The Umore Park Steering Committee should advance development of its vision of creating a community at UMore Park as a model of a sustainable community. The University should engage consultants and developer(s) to advance the master plan concept, establish needed approvals and undertake the development.

4 Smetanka, Mary Jane. “U Goes Slowly in Deciding Use of Valuable Land,” Minneapolis Star-Tribune. November 10, 2005.

5 The September 2005 report authored by a Special Executive Committee and entitled “Creating a Lasting Legacy for UMore Park: Advancing the University of Minnesota’s Academic Mission” suggests that financial gain from UMore Park should be invested in supporting the University’s academic priorities for research, engagement and outreach.

The University should offer its intellect, leadership, and land. Once project plans progress and a financial profile becomes more certain, the University might also consider leveraging its access to capital as part of the transformation of this land to become a model sustainable community. The academic community should continue its involvement through the planning process by further developing the three themes of education, health and energy, and should provide collective knowledge for University and the consultants. A master developer should provide its experience in collaborating with the University in planning (creating detailed plans and approvals to support the University vision), securing independent financing and developing the land.⁶

5. Three forces compel the consideration of UMore Park as a community: the opportunity to support the University’s mission through generation of capital; the opportunity to create a model community whose quality of life embraces and reflects the University’s collective intellect; and the opportunity to contribute to regional economic development through relationships with local partners. While the UMore Park Steering Committee envisions UMore Park to be a sustainable community (typically described as a condition where the social, economic and environmental needs of this generation are satisfied without compromising the opportunity for future generations to do the same)⁷, the topics of education, health and energy emerged during this study as those of greatest interest in designing the community. Study and testing of these ideas indicate that opportunities exist to integrate them into community design. For example, a healthy society exists only when the community maintains environmental quality. Through innovative design and management, the UMore Park community

6 There is the potential for multiple developers ultimately to be involved.

7 The 1987 United Nations Report of the World Commission on Environment and Development is largely recognized as defining sustainability. In it, the Commission states that “the critical objectives for environment and development policies which follow from the need for sustainable development must include preserving peace, reviving growth and changing its quality, remedying the problems of poverty and satisfying human needs, addressing the problems of population growth and of conserving and enhancing the resource base, reorienting technology and managing risk, and merging environment and economics in decision-making.”

and its partners can demonstrate that renewable energy and resource management contribute to economic development and healthy ecosystems. Similarly, life-long learning will be a critical contributor to UMore Park's healthy society.

6. 82% of the land at UMore Park does not contain sensitive natural resources and is suitable for development. However, most of the acreage is constrained from development due to limited road access, lack of utilities, the existence of abandoned structures, construction debris through the area previously used for the Gopher Ordinance Works, and/or potential or actual site contamination.

The University should prepare the site for development by assessing site contamination and, as relevant to development decisions, remediating it; demolishing abandoned, sub-standard structures and contracting to recycle the significant volume of waste concrete on the site; developing a plan to mine the site's gravel, which is estimated to have a value of up to \$21 million⁸; and crafting a plan to accommodate agricultural research on appropriate lands. If it coordinates these activities with the development of plans that coordinate with public plans, construction may commence as early as 2008.

7. To ensure that it can effectively lead the development process, the University should assign an existing entity, or create a new entity, with administrative powers that will enable it to effectively interact with the developer and act with speed and vision as it represents the University's interests.
8. The University should maximize the value of the Umore Park property to substantially contribute to the University endowment, support the academic mission and contribute to overall economic development in the surrounding region. The University's September 2005 report recommended, "that the financial gain the University receives from UMore Park operations should be reinvested into a perpetual endowment that

can be used for generations to fund scholarships and other academic priorities that are directly linked to the University's mission to provide world-class research, engagement, and outreach".⁹

9. UMore Park has been and will continue to be subject to public demands for use of the land. Portions of the land were sold in 1971, 1977 and 1981 for non-University uses. Without a plan of action for University use, the University will continue to be pressed to partition this land at the risk of undermining the potential it has to serve University purposes.
10. The University has determined that any additional space to accommodate future needs of its Twin Cities campuses is preferred when located in close proximity to those campuses. An exception of note are faculty members already doing their agricultural research at UMore Park and a range of disciplines of faculty interested in coupling the development of UMore Park as a new community with academic research on sustainable community planning and development.¹⁰
11. Dakota County and the municipalities that host UMore Park – the City of Rosemount and Empire Township – have a legitimate interest in its future. The University should consult with these jurisdictions and coordinate with their regional and community growth plans as planning for UMore Park progresses. Ensuring that Dakota County, Rosemount and Empire Township are well informed and supportive of the University's development objectives will expedite the planning process.
12. The site's stakeholders, both internal to the University and in the larger community, appear to be well aware of the many planning studies undertaken for UMore Park and seem to agree that the time is right to take action to transform UMore Park.

8 The amount of \$21 million is in 2003 dollars.

9 "Creating a Lasting Legacy for UMore Park: Advancing the University of Minnesota's Academic Mission," Executive Report to President Robert Bruininks, 2005.

10 According to the World Commission on Environment and Development (*Our Common Future*, Oxford University Press, 1987) "Sustainable development seeks to meet the needs and aspirations of the present without compromising the ability to meet those of the future." Sustainable development pursues economic development while protecting the ecological condition and social stability.

The Sasaki Team Vision

The Sasaki Team envisions UMore Park as a community in which the University collaboratively engages its expertise in teaching, research and outreach across myriad disciplines. It will be a place to discover, invent, design, build and evaluate the physical, socio-economic and institutional “infrastructure” of the 21st century. This vision will support the University’s financial goals, further the University’s mission and provide service to the region.

UMore Park’s identity will be that of a vital community with unique educational foundations – for the youngest children to the oldest citizens. By focusing on health and well-being, energy, the environment, and education, residents and visitors will learn first-hand what it means to be part of a sustainable community. Anchored in the University’s land grant mission of research, outreach and engagement, this community will be imbued with the spirit of discovery and the opportunity to share commitments and talents in a unique environment.

The Sasaki Team envisions the community to consist of the best of community design traditions. Recreation, commerce and residences will be within walking distance of each other. Architectural character will provide visual interest and demonstrate that energy and resource efficiency can be achieved with design and building principles that are available to all. A mix of types of residents and prices will provide for a range of incomes and household types. Housing and social needs of the elderly will be provided for in ways that are integral to the community. Sufficient density will be realized throughout the community to provide for preservation of open land within the community.

Life-long learning should be a hallmark of the community’s image. Unique educational experiences will be available. Infused with the spirit of camaraderie and adventure, they will enrich and enhance the lives of community residents of all ages. A focal point of the community’s center will be a partnership among regional libraries and the University. This library will provide information services, books and publications for learning and enjoyment, access and applications of state-of-the-art technology and linkages to the University of Minnesota library system, the top-ranked research library in North America. It will serve the community, based on age-level interests and will offer forums that feature University researchers and educators to address issues of the day that impact citizens: diet and nutrition; obesity in children and adults; management of diet-related chronic diseases such as diabetes, cancer and heart disease; gardening and yard care; relationships of communities to water quality; alternative energy and Minnesota’s future in biofuels, wind and other renewable energy options; and energy-efficient homes, vehicles and buildings.

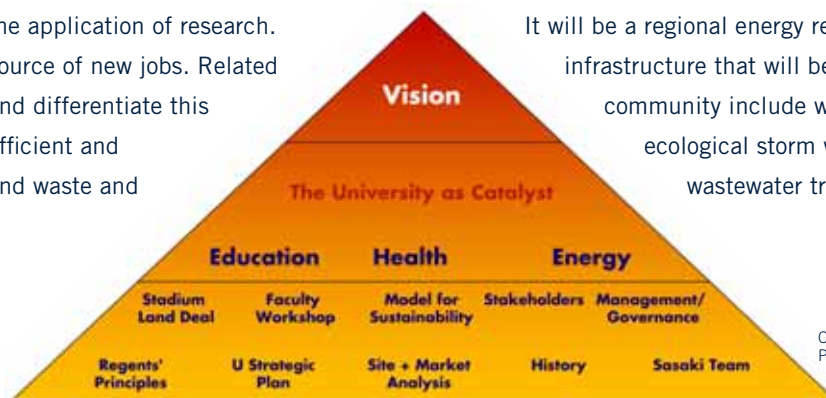
A second tenet of this community will be its commitment to a healthy environment. The new community will offer a systems approach to quality of life that encompasses food; diet and nutrition; exercise; community, business and home design; health care; education; mental health; youth; social work; and progressive care for aging as part of a vibrant community. This picture of health also recognizes that maintaining water, air and environmental quality, and life-long learning are all parts of a healthy society. A physical expression of this interest will be a health and wellness complex

that serves residents and others through the range of education and wellness, physical activities, health care (prevention and treatment). The priority focus will be compelling societal health issues, including obesity, diabetes, heart disease and other diet-related chronic diseases. Emphasis will be on physical and mental health and wellness across lifetimes, from prenatal to senior needs. A community-based health and wellness complex will have a unique relationship to University research, clinical practice, structure and experience in health services, education, family practice and social services. Existing partnerships and new public and private partners will leverage positive outcomes. This community-based health ‘system’ will be designed to serve the community while also providing leadership and vision that extend beyond the region and the state.

The integration of the University of Minnesota’s expertise into the health and wellness complex and system will incorporate the added enhancement of evaluative research to measure the benefits of methods and services to individuals, the community and partner organizations. It will integrate the environment and use of resources into the evaluation of human and community health and incorporate life-long education, research and programs to encourage people to lead healthier lives.

Finally, the community will uniquely benefit from University discovery and education, paired with private sector partnerships, that will promote land use and design that best manage energy resources, protect the environment, and enhance quality of life. UMore Park will conserve energy and produce renewable energy to serve its needs. The design and integration of efficient systems for energy generation and use is central to this successful community for tomorrow, whether from current or renewable sources of energy. Efficient and cost-effective wind- and solar-based energy systems will ultimately be integrated to make sustainability a tangible element of daily life. Through innovative design and management of renewable resources, this community and its partners can demonstrate how renewable energy and resource management contribute to statewide economic development; sustainable, healthy, and diverse ecosystems; and national energy security.

The community’s leading-edge commitment to energy-efficiency, energy-cost reductions and sustainability will be expressed through a wind farm located in reasonable proximity to the community and an adjacent agricultural area for the production of crops that have high potential as biomass as a renewable energy source. A biomass production facility will ultimately be an outcome of the application of research. It will be a regional energy resource as well as a source of new jobs. Related infrastructure that will benefit homeowners and differentiate this community include water conservation, efficient and ecological storm water management, and waste and wastewater treatment.



OVERVIEW OF STRATEGIC PLANNING PROCESS



INTRODUCTION

This notebook represents efforts undertaken by, and in support of, the University of Minnesota Outreach, Research and Education (UMore) Park Steering Committee during 2006. This planning effort supports the University's determination to move forward with development of UMore Park, creating a place through which the University will demonstrate leadership in higher education, renewable energy and environmental protection in a "landmark development of national importance."¹ This recommendation, among others found in "Creating a Lasting Legacy for UMore Park: Advancing the University of Minnesota's Academic Mission: An Executive Committee Report to President Robert Bruininks" (September, 2005), was presented to the Board of Regents in November 2005. The Board's endorsement of the report signaled the creation of the UMore Park Steering Committee and the start of a process to secure consultant planning support for the University to fully explore means of realizing the goals of the 2004-2005 Executive Committee Report and the Board's guiding principles for UMore Park (February 2006). The result is this analysis of the valuable role that UMore Park, the largest land grant parcel within a major metropolitan area in the country, should play in supporting the University's goal of becoming one of the top three public research universities in the world.

The Sasaki Team assisted the UMore Park Steering Committee in 2006. The scope of this team's work included:

- Development of a market analysis to test the viability and recommend a scale of development at UMore Park;
- Extensive stakeholder engagement within the University and area communities;
- Analysis of the availability of infrastructure and government policies in support of development at UMore Park; and
- Articulation of program (types and scales of development) that would support the University's mission, the vision for UMore Park, and the University objectives of ensuring that this development is financially profitable.

In addition to the consultant efforts, as the process evolved the UMore Park Steering Committee made a commitment to three themes for UMore Park's identity in its next generation: health, education and energy. The Steering Committee studied each of these topics to create the framework for understanding how each will be integral to UMore Park. Steering Committee reports on these topics are included as an appendix to this notebook.

¹ "Creating a Lasting Legacy for UMore Park: Advancing the University of Minnesota's Academic Mission: An executive committee report to President Robert Bruininks", September 2005

STAKEHOLDER OPINIONS

The Sasaki Team found that stakeholder opinions about UMore Park are broadly held. Representatives of government, community residents and businesspeople engaged in the Sasaki Team's research and analysis revealed the following interests and concerns:

- Many people expressed interest in ensuring that development of the site benefits the University in terms of continued or expanded research and as an opportunity for financial gain.
- There was broad agreement that the site should be developed for a mix of uses (including residential development), and as a community whose planning ideas and design are distinct within the marketplace.
- Many stakeholders expressed a desire for the community to innovate in its design, particularly as relates to the natural environment.
- Most stakeholders hold affection for the open spaces and agricultural land at UMore Park. They are proud of the commercial application of the University's agricultural research as a significant contributor to the regional, state and national economy.
- The time appears to be ripe to implement change at UMore Park because of the recent growth in the value of the land for development, current planning and development occurring in neighboring jurisdictions, and the compelling strength of the University's ongoing strategic planning process.

University personnel, over sixty administrators and faculty members, convened to inform the process. Participants represented a wide range of faculty interests, including agriculture, earth sciences, social sciences, and the humanities. They reached the following conclusions:

- They support President Bruininks' perspective on land grant universities' historic and current roles relative to economic development.² They envision a community built around the "knowledge economy" and/or "creative community." Serving as an international model, the community also will contribute financially to the University and will underscore the Midwest's historical contribution to innovation and discovery. Successful planning of this site, they believe, will easily attract residents and businesses.
- They see this as a unique opportunity to create a model for engaging the University across disciplines that study the environment, society, arts and healthy living at a community scale.
- Researchers want the development of UMore Park to be a generator of revenue that will reinvest in continued research.
- They desire to make the site's legacy of outreach, research, and engagement more prominent.

² "Regional Economies in Transition: The Role of the Land Grant University in Economic Development," presented for discussion by Robert H. Bruininks, President, University of Minnesota, to the NASULGC Board of Directors, September 12-13, 2005.

SCENARIOS FOR DEVELOPMENT

As part of the planning process, the Sasaki Team conducted a real estate market analysis that quantified and projected the regional market for the next two decades. Using that model, they recommend three development scenarios to test the projected financial viability for development at UMore Park over a twenty-five year timeframe. These three scenarios are each valid and offer different advantages and challenges to the University. It was decided to test each with the expectation that this analysis would help the Sasaki Team to quantify and qualify the likely outcomes, and thus enable the consultant Team to present a compelling argument to the UMore Park Steering Committee in favor of a selected scenario. The Sasaki Team recommends Scenario “C” - “Develop a New Community”.

Each of the three options offers potential advantages and disadvantages to the University, the region, and UMore Park investors:

Hold Land Without Development

The first scenario (“A”) is “Hold Land Without Development.” Here, the University would increase investment in UMore Park over the next ten years by removing dilapidated structures, remediating site contamination and extracting value from the gravel pits and onsite concrete remains of the Gopher Ordnance Works. It would continue its research and commercial leasing while anticipating an increasingly favorable market for developing the site.

- *Outcomes for the University* – This option may not achieve the University’s goals for UMore Park as envisioned in the September 2005 foundational report to the University of Minnesota and discussions by the University Board of Regents (November 2005) that informed the University leadership conclusion that the timing was right for the University to take advantage of its opportunities to change land uses at UMore Park, developing it to support the University’s mission.

In the previous decade, real estate values in the UMore Park region have increased at an average rate of 8% per annum. The University may find that delaying development of UMore Park will yield greater profit in the future, depending on outside investment that otherwise occurs in the region. Banking the land also would allow the University to use the land for new uses related to its academic mission if this need emerges in the next decade.

Pursuing this scenario, the University would, at best, address the site’s mission by creating a framework plan during the ten year land bank term with hope of realizing it thereafter. While this strategy would provide increased income during the ten year period, it is expected that the University would reinvest that to prepare the site for development. As a result, this scenario would not require the University to invest financially during the first decade nor would it contribute to the University’s financially.

- *Outcomes for the Region* – With the exception of water and sewer infrastructure, the region’s plans assume continued agricultural activity at UMore Park. (This activity has historically consumed 10-15% of the total land.) Under this scenario, adjacent communities’ comprehensive plans will continue to treat UMore Park as such and may not reflect any University plans to develop the land. The University will not be in a position to influence public planning and investment decisions to its advantage.
- *Outcome for Potential Investors* – Without a University plan for its development, parties interested in UMore Park land will continue to appeal to the University for sale or transfer of its parcels. Market response to the availability of UMore Park land in a decade will depend on the pace of continued speculative investment in the region, the outcome of any UMore Park land transfers that might occur in the interim and general market conditions.

Sell Land at Wholesale Prices

In the second scenario (“B”) – “Sell Land at Wholesale Prices” – the University would subdivide the property into large parcels of land and sell it as quickly as possible. The purchasers of the large land tracts (assumed to be at least one hundred acres) would determine future use and pursue approvals. The market study suggests that it is likely that this would result predominantly in low-density residential neighborhoods. Existing University research and commercial leases would be terminated to accommodate sales. The expected timeframe to fully transform the site is twenty-five years.

- *Outcomes for the University* – This scenario allows the University to sell UMore Park at as rapid a pace as possible in order to reinvest the capital elsewhere. The lack of involvement by the University in determining future ownership and development of this land, however, challenges the 2005 recommendations of the University’s Executive Committee for continued involvement in the land by the University. The Executive Committee urged the University to act as steward of the land and ensure its future use is consistent with the University’s mission to serve the residents of Minnesota.
- *Outcomes for the Region* – As with the scenario that would hold land without development, the laissez-faire attitude of this scenario will frustrate regional planning efforts. Host and neighboring communities may attempt to engage the University in a rational process for land disposition and/or the communities may strengthen their resolve to control development through stronger comprehensive planning at the municipal level.

- *Outcome for Potential Investors* – Without a vision or criteria for purchase, it is likely that land speculators and developers will buy UMore Park land, as is currently happening in the surrounding area, to construct residential, commercial, and industrial uses. Without a University plan for the land, its acquisition is anticipated to yield less profit for the University than if sale and development is coordinated.

Develop a New Community

The third scenario (“C”) – “Develop a New Community” – calls on the University to develop a master plan, establishing the design details to inspire decision-making and capital investment and guide development. To construct the vision for UMore Park described in this plan as Scenario C, “Develop a New Community,” the University is called on to plan with sufficient detail and advance site preparation to attract a master developer(s) to aid in its execution.³ In this scenario, the University offers its land, name and intellect as integral to the identity of the site, and may provide financial mechanisms to access capital in a preferential way. The master developer provides the benefits of its experience in developing a master plan, securing approvals, developing the land, and its independent access to capital.

- *Outcomes for the University* – If this scenario is pursued, the University will enhance its projected revenue stream by creating a vision for the redeveloped site and the pace of development. This strategy also will allow the University to reserve land for its needs—or as a future reserve for unanticipated needs—at preferred locations. Engagement of a “master” developer of national prominence is recommended as necessary to realize previously unarticulated demand. Thus, this strategy can redirect existing demand and generate maximum revenue.

³ This does not prevent the inclusion of additional developers for specific phases of the development and/or parcels.

- *Outcomes for the Region* – Creating a new community that is a national model of sustainability and University-developer partnership will transform the region. The large scale of the community needed to support this strategy will increase the numbers of residents and businesses in Dakota County above the number projected, and may have a positive influence on the type and quality of development in the host and neighboring communities.
- *Outcome for Potential Investors* – The contemplated master developer-University relationship will create investment opportunities that are new and unusual within the marketplace. Thus, it will allow the University to attract greater demand than typical development would and support the University vision of the community as a model of sustainability. By establishing a threshold of quality (and perhaps of size), the project will attract the nation's and region's best developers.



IMAGE OF UMORE PARK SITE



1.1 INTRODUCTION

In many ways, this study represents a natural progression in a series of deliberations, largely internal to the University community, to determine the means of planning for appropriate use and managing UMore Park. This study perpetuates the values previously articulated of using the land to benefit University research, education and engagement: envisioning Umore Park as a place of real benefit to the region; and calling for the University’s continued visibility as owner of the land and as a public institution with responsibilities of research, education and engagement benefitting the citizens of the state. The following principles articulated by the University of Minnesota Board of Regents in February 2006 guided decisions and deliberations throughout the planning process:

- Protect and enhance the value of UMore Park through timely planning and action.
- Advance the University’s research, education and engagement mission through the physical and financial resources that UMore Park will provide over the long term.
- Improve the long-term financial health of the University through application of sound fiscal principles and stewardship. Invest the income generated through

UMore Park in ways that support academic priorities to supplement and leverage state and private support.

- Retain oversight of UMore Park’s planning and development and remain accountable for the master plan.
- Plan in such a way so as to optimize the value of UMore Park utilizing short-term strategies without restricting options for long-term strategies.
- Utilize market value as a benchmark in assessing alternative development strategies.
- Ensure that all planning and development activities are conducted with the highest standards of fairness, integrity, and sound business practice.
- Respect the needs of neighboring communities, and local, regional and state governments.

In the 2006 planning process, more than 120 individuals shared their concerns and hopes for use of the land. As a departure from previous efforts, this process placed equal focus on the land for its own potential as well as for that of the University. Discussions were robust, often grouping individuals of different perspectives to provide for debate and to cultivate awareness across stakeholder parties of

the range of opinions. The outcome indicated a shared opinion that the land should be developed as a mixed-use community where the University's land grant mission of research, community engagement and education serves as a national model. Stakeholders articulated different emphasis on the components and specifics of design, as is evident in the text of this section.

During the strategic planning process described in the following section, the UMore Park Steering Committee challenged itself to identify the ways in which the new community would identify with the University. The group agreed to three arenas where University expertise could add unique value to a new community over the anticipated 25-year development time frame. Education, health and energy were established as the focus, both as independent elements and with recognition of the myriad opportunities to explore synergistic relationships between them. A subcommittee to the UMore Park Steering Committee was established for each of the three themes and tasked with creating a vision to be used as a foundation for future planning of the new community. These efforts are summarized in the Appendix to this document.

1.2 OVERVIEW OF THE PLANNING PROCESS

In 2004, the University's then Vice-President for Agricultural Policy and Dean of the College of Agricultural, Food and Environmental Sciences¹ was charged to develop recommendations for the future of UMore Park.² These recommendations, detailed in a September 2005 report to the President, were integral to the identification of a vision for UMore Park and laid the groundwork for the strategic plan. As a result of these efforts, in October 2005 the University issued a request for proposals from professional planning and development consultants to assist the UMore Park Steering Committee in assessing UMore Park's economic, academic and development potential.

They selected the Sasaki Team of consultants to aid in their endeavor. The consultant team's efforts commenced in February 2006. The consultants analyzed site attributes, market trends and relevant public investments and policies, and engaged stakeholders external and internal to the University to establish a vision for the site.

Approximately sixty UMore Park stakeholders – largely representatives of local, county and state offices, resident businesses and neighbors to the site – were consulted. Each was asked about their values for UMore Park, what they appreciated and wanted to maintain, and what changes they would welcome. They were asked to provide comments on a number of potential land uses for the site. The process revealed the following interests and concerns:

- *University Association with the Site* – Many people expressed interest in ensuring that development of the site benefit the University in terms of continued or expanded research and, to a lesser degree, as an opportunity for financial gain.

¹ The position, Vice President for Agricultural Research, was reconfigured in 2006 to Vice President for Statewide Strategic Resource Development, with an ongoing responsibility for UMore Park.

² "Creating a Lasting Legacy for UMore Park: Advancing the University of Minnesota's Academic Mission: An executive committee report to President Robert Bruininks," 2005.

- *Image of the Site* – There was broad agreement that the site should be developed for a mix of uses (including residential development), and as a community whose planning ideas and design are distinct within the marketplace. Many advocated that it should have sustainable design elements.
- *Legacy of UMore Park* – Many stakeholders value UMore Park as natural land used impart for agricultural research. They recognize the significant commercial application that the University of Minnesota agricultural research contributes to the regional, state and national economy.
- *Timing of the Plan* – There was broad consensus that the time is ripe to implement change at UMore Park due to the growth in the land's value for development; the strength of the University's strategic planning process; the timing and directions of current plans for Dakota County, Rosemount, and Empire Township; and the analysis of the parcel conducted over the last five years.

A parallel effort was sponsored to engage University personnel. Over sixty faculty convened to inform the process. Participants included representation of a wide range of academic interests, including agriculture, health sciences, social sciences, and the humanities. They easily reached the following consensus:

- *University Association with the Site* – Participants support the land grant universities' historic and current roles relative to economic development. Their ideas for this site include an international model of a community built around the "knowledge economy" and/or a "creative community" that also contributes financially to the University. Their emotions are linked to the observation that the "true" Midwest, known for its innovation and discovery, is the perfect location for this new community; UMore Park would be the next great area of discovery.

Distinguishing Characteristics of UMore Park as a New Community:

- University of Minnesota identity—excellence in chosen pursuits
- A model of the land grant mission of "research, education and engagement" for the new century
- Grounded in the present to improve conditions for the future
- Educational excellence, life-long learning
- Healthy living
- Sustained by renewable energy sources
- Access to Minneapolis and St. Paul via convenient public transportation
- Local farms—rich food supplies
- Multiple and pleasant connections to vast open space network
- Water efficient buildings and land management practices
- Energy efficient buildings
- Mix of land uses—a "community" of uses and activities
- Attractive design, as with Minnesota's best-loved cities and towns

- *Image of the Site* – The participants see this as an excellent location to create a model community that engages the University across all disciplines. They believe that this is a rare opportunity to study environment, society, arts and healthy living at a community scale and that successful planning of the site will easily attract residents and businesses.
- *Legacy of UMore Park* – Faculty want the development of UMore Park to be a generator of revenue that the University will reinvest in continued research. Many of the faculty who currently perform research at UMore Park enjoy its convenience to their Twin Cities campus base and would like to see that opportunity perpetuated.

- *Timing of the Plan* – Regional growth and the University's strategic planning have created a greater imperative for the University to develop this site. Funding generated the University to become one of the top three public research institutions in the world.

Further, the UMore Park Steering Committee constituted itself as three subcommittees to explore ideas for considering the UMore Park property as a model community of the future. The University's nationally recognized leadership in education, sustainability, and the range of quality research that contributes to quality of life for people, their families and their communities could become the image of UMore Park as a model community. These subcommittees articulated the framework for education, health, and energy at UMore Park³.

A real estate market analysis quantified existing demand, market trends and projected the regional market for the next two decades. The start of this process recognized that UMore Park has a market value that would have been unimaginable a generation ago and its value as raw land will likely continue to grow at a similar or accelerated rate. With the UMore Park Steering Committee, the Sasaki Team identified three development scenarios to test financial modeling of UMore Park's development potential. Each is consistent with the stakeholder interest in continued use of the land by the University and in environmental stewardship of the most sensitive portion of the site. They differ as a function of the amount and/or type of development to occur at UMore Park, the level of risk for the University and the expected return on investment.

Additional studies undertaken in recent months by the UMore Park Steering Committee explored both the site contamination at UMore Park and the opportunity to recycle the concrete related to the abandoned Gopher Ordinance Works facility.

³ A summary of their efforts is found in the Appendix to this report.

DATE 3 May 2006
TO UMore Park Steering Committee
FROM Willa Kuh and Fred Merrill
PROJECT NAME University of Minnesota UMore Park
PROJECT # 54621.00
SUBJECT Faculty and Administrators' Planning Work Session

Following are notes that summarize the April 24, 2006 UMore Park work session. At this forum, nearly 60 faculty and administrative leaders from a cross-section of disciplines participated in considering potential future uses for UMore Park. They did this in the context of considering the University's established plans for UMore Park (from 2000 to present) and President Bruinink's paper entitled "Regional Economies in Transition: The Role of the Land Grant University in Economic Development" (2005).

Faculty and Administrators' Comments on Opportunities for UMore Park

- The assembled support the universities' historic and current role relative to economic development. Their vision for this site is that it should be a prime example of a community built around the "knowledge economy" and/or a "creative community" that also contributes financially to the University. The "true" Midwest is known for its innovation and discovery. UMore Park would be the next great area of discovery.
- The assembled see this as an excellent location to create an international model of a sustainable community that engages the University across all disciplines. This is a rare opportunity to study at an entire community scale—environment, society, arts, healthy living. Successful planning of this site will easily attract residents and businesses to the benefit of the University and region.
- Financial sustainability—researchers want the development of UMore Park generate revenue to be reinvested in continued research. Such a mechanism can allow the University to match and fully sponsor externally-supported academic research, including the research most relevant to this new community.
- The University's tradition of agricultural research should be included in future plans.

Faculty and Administrators' Concerns

- Faculty and administrators want to ensure that income from future development will be used to support the University's academic mission as consistent with the goal of becoming a top public research institution. Income should not be used for budget relief.
- How can the development partnership be structured to ensure prompt decision making supportive of University goals and objectives? The University needs to work in the near-term to develop quantitative models that will convince developers of the viability of the University's desired innovations.

- Should the land be sold or only leased? The University's interest is in maintaining sufficient control of land use. Development of UMore Park can become a significant center for University activity.
- Transportation access to the site is constraining and should be resolved in part through provision of rail to the site.

Faculty and Administrators' Research/Development Ideas for UMore Park

- Agriculture
- Agricultural research
- Alternative fuels
- Animal research
- Art
- Artist community
- Biodiversity (measure before, during and after development of the community)
- Climate change
- Cold climate architecture
- Conference center
- Design for healthy living
- Environmentally friendly lighting (limit night sky pollution and energy use)
- Housing for a large cross-section of the population and in innovative community forms
- Innovative building materials
- Innovative infrastructure
- Interdisciplinary study
- Intergenerational issues
- Life-long learning
- Locally produced food resources
- Measuring community scale inputs and outputs
- Medical—connections to the field through provision of services, teaching and training, research
- Public health
- Schools and connections between them and the site's research
- Tourism
- University teaching

DATE *17 March 2006*
TO *UMore Park Steering Committee*
FROM *Fred Merrill, Willa Kuh, Steve Wilson, Philip Phillip Parsons*
PROJECT NAME *UMore Park Strategic Plan*
PROJECT # *SA #54621.00*
SUBJECT *Meeting Notes from Feb 22 to 24, 2006 Stakeholder Interviews*

In Sasaki's compilation and review of our notes from the stakeholder interviews we noticed widespread consideration of certain issues. These are outlined below:

Common Interests

- University association with this site—many people expressed interest in ensuring that development of the site benefits the University in terms of continued or expanded research and as an opportunity for financial gain.
- Image of the site—there was broad agreement of sentiment across stakeholders that this should be developed for a mix of uses (including residential development) and as a community whose planning ideas and design are distinct within the market place. Many advocates of a mixed-use community expressed interest that it has sustainable design elements and (to a lesser extent) host community (social) research.
- Stakeholders value UMore Park and relate to its agricultural research, recognizing that it contributes to the economy and is increasingly becoming a landmark of the heritage of the region (given the rate of conversion occurring in the area from agricultural to residential and commercial uses).
- Timing of this plan—there was broad description of the timing being ripe for this plan to catalyze change at UMore Park. This appears largely to be a function of the growth in value of the land for development, the strength of the University's ongoing strategic planning process, ongoing planning efforts by Dakota County, Rosemount, and Empire Township and, according to few stakeholders, the background consideration of the land established over the last five years.
- Broaden the variety of research undertaken at UMore Park.
- This is formative time in sustainable design, a viable opportunity for this site (bio-fuels, innovative stormwater management, solar and wind energy production, composting).

- The key natural resource at UMore Park is land that abuts the Vermillion River (designated trout stream) for water quality and as a recreational resource. The State and County are aligned to preserve the Vermillion River Corridor for recreation, water management, and natural resource protection.
- This master plan process is an opportunity to look at urban/rural transition issues. This is an opportunity to be a model example of development at the edge between urban and rural areas.
- This site can showcase self-sustaining systems and make connections between agriculture and health.
- The University plans should ensure financial benefit to the University.
- Maintain natural beauty of the site.

Associated Concerns

- The University has limited funds to invest up front in this site.
- The plan should strive to be self-financing.
- Objectives of the planning process are to generate an analysis of predictable development and options of greater value to the University system.
- Integrate planning for UMore Park's future with that of the University.
- UMore Park should not be "parceled out" for fragmented suburban development.
- Don't let the potential need for site remediation limit the vision for the GOW site.

Following are stakeholder groups involved in the UMore Park master planning process:

Aggregate Industries
College of Agriculture, Food and Environmental Science
College of Architecture and Landscape Architecture, now known as the College of Design
Center for Rural Design
Dakota County Technical College
Department of Natural Resources
Faculty with research projects at UMore Park
Flint Hills Refinery
Local School Superintendents
Master Gardeners
Met Council
Representatives of Dakota County
Representatives of Empire Township
Representatives of Minnesota Agricultural Experiment Station
Representatives of Minnesota Extension Services
Representatives of the City of Rosemount
Representatives of the Metropolitan Council
Representatives of the Soil and Water Conservation District I
UMore Park Citizens Advisory Council
UMore Park Management Team and New Co-Deans, Director of Extension
UMore Park Staff
UMore Park Steering Committee
University environmental, government relations, community relations, communications staff

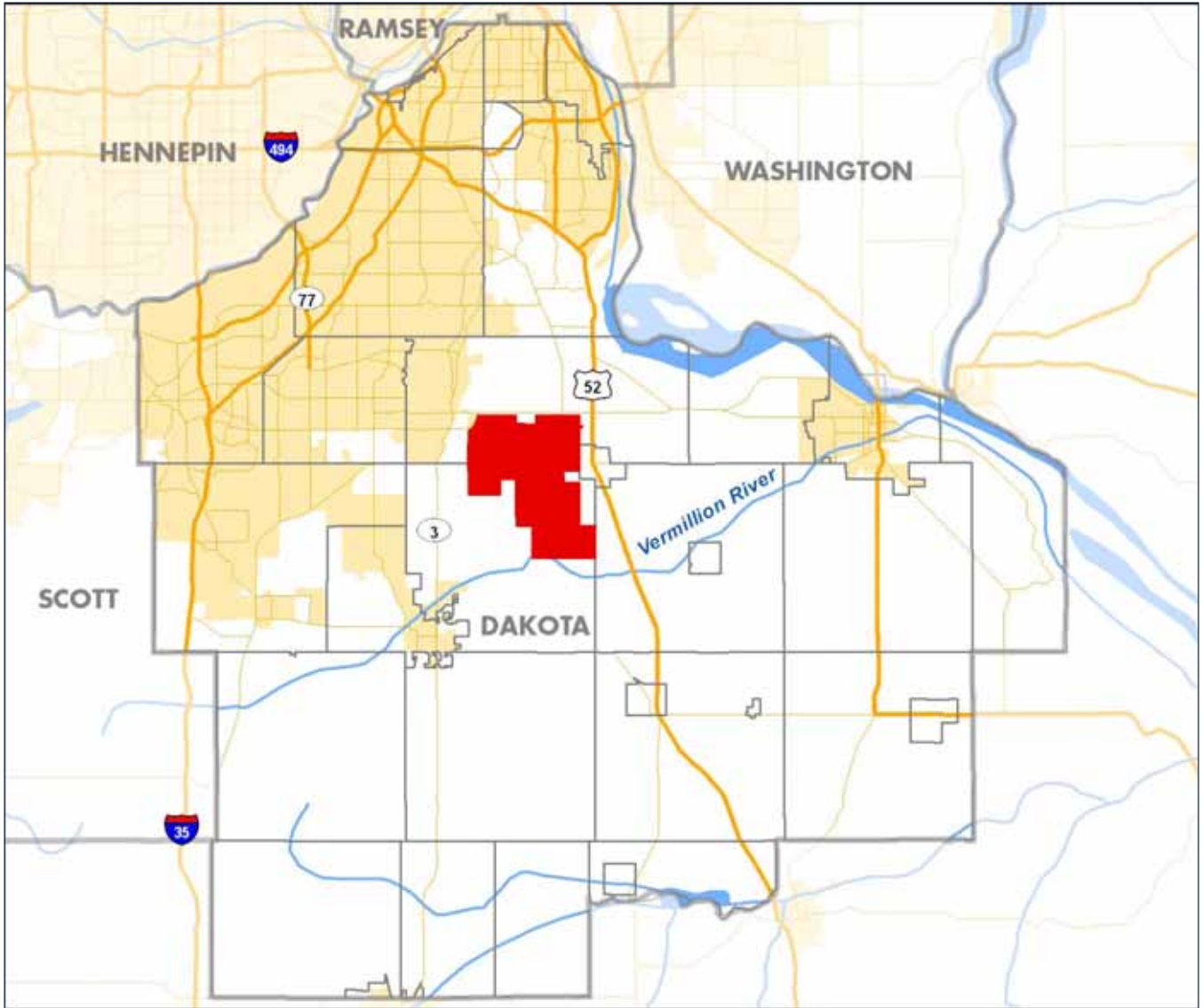
1.3 MATRIX OF THREE DEVELOPMENT OPTIONS

<i>Alternative</i>	<i>Hold Land Without Development</i>	<i>Sell Land at Wholesale Prices</i>	<i>Develop a New Community</i>
Strategy	Hold land for ten years, and then develop.	Sell land as quickly as it can be absorbed for whatever uses the market demands.	UM will establish a partnership with a developer to create a community planned and designed to be sustainable. The community identity will be associated with the University and the land grant institution objectives can be realized because of enhanced value of University association.
Land Use	As today—small scale commercial uses, University research. New—gravel mining	What the market demands—low-density residential is anticipated for foreseeable future, gravel mining.	Mix of uses, as explored through this planning process, and gravel mining.
Timeframe	10 years	10 years	25 years
Community Involvement	Good neighbor—improve site maintenance. Enhance site's future value by working to develop light rail to site.	Sell/lease parcels (assumed to be a range of sizes) regardless of compliance with existing comprehensive plans. Enhance site's future value by advocating for comprehensive plans in Rosemount and Empire Township to allow for highest value uses at UMore Park and by working to develop light rail to site. Pursue approvals to transfer density from "University land" to remainder of UMore Park.	Engage in public dialogue of comprehensive plans. Enhance site's future value by working to develop light rail to site.
Community Coordination re: Use of South Land	Coordinate with DNR on the 2,480 acres on the southern portion of UMore.	Coordinate with DNR on the 2,480 acres on the southern portion of UMore.	Coordinate with DNR on the 2,480 acres on the southern portion of UMore.
Environment – Comprehensive Study	Not needed through land bank term	Land purchasers would undertake	UM to finance, partnership to develop
Environment – Site Assessment	UM to ensure done	UM to ensure done	UM to ensure done
Environment – Remediation	UM to ensure done as necessary to protect public health and environment	UM to ensure done to residential standard (maximize value potential)	UM to ensure done to master plan standards
Financial – U Investment	Enhance site management, prepare development plan for end of term, demolish and remove substandard buildings and site debris.	Enhance site management, demolish and remove substandard buildings and site debris.	Master plan, Environmental Impact Statement, Covenants, Conditions & Restrictions, site assessment and remediation, design and construction of master level of development (including amenities) to prepare development-ready parcels



UMORE PARK CONCEPT PLAN





UMORE PARK SITE CONTEXT



SITE ANALYSIS

CHAPTER TWO

2.1 INTRODUCTION

UMore Park land value as host to sensitive and significant natural resources and to the mission of the institution is the subject of a number of studies in the last decade. It also has industrial value associated with gravel extraction, waste concrete recycling and, wind energy development. The continuing trend of suburbanization of Dakota County is reaching UMore Park, providing that land with a commercial development value that might not have been imaginable twenty years ago.

Today, while 82% of the UMore Park land is suitable for development in its current state (i.e. is not a sensitive natural resource), relatively little of the acreage is development ready. Most of the acreage is constrained from development by limited road access, lack of utilities to support development, the existence of abandoned structures, construction debris throughout the area previously used for the Gopher Ordnance Works, and/or potential or actual site contamination.

Studies prepared for the University in 2003 document the location and potential value of aggregate resources at UMore Park.¹ The study found that four areas of UMore Park have a collective value to the University of between \$14 and \$21

million.² The actual financial value that the University will realize will be influenced by the terms of the agreement for extraction³, the timing of extracting the material and the actual outcome— e.g. quality and quantity—of the operation.⁴ This report follows an *ad hoc* committee effort by government and industry in 1998 that documented the Minneapolis demand and supply for aggregate. This study concluded that while per capital demand is increasing, so too are the constraints on extraction due to competing land uses, restrictive zoning, increasing quality standards, and complex permitting processes and standards.

Studies are currently underway to determine the value of waste concrete at the former Gopher Ordnance Works⁵, one of seventy-seven United States munitions facilities constructed and operated during World War II. Presently, the site still contains a number of WWII-era buildings, as well as hundreds of assorted foundations, footings, remnants and rubble associated with the former GOW facilities.

1 Studies are entitled "Inventory and Valuation of Aggregate Resources, UMore Park, Dakota County, Minnesota: (July 2003) and "Exploration for Additional Sand and Gravel Resources: an Addendum to Inventory and Evaluation of Aggregate Resources, UMore Park, Dakota County, Minnesota: (December 2003), both produced by R. K. Hoagberg Associates, Consulting Geologists, Edina, Minnesota

2 This is a 2003 dollar value.

3 In addition to contract terms that dictate roles and responsibilities for permit approvals, terms of payment and schedule, the value to the University of aggregate extraction will be impacted by conditions of operation—site maintenance, hours of operation, and site preparation for redevelopment once extraction is complete. These issues of site control will likely be very important to the phasing details of the master plan for UMore Park.

4 The environmental review and permit process for aggregate extraction at UMore Park can be expected to take up to two years. In addition, existing long-term contracts for extraction in Empire Township and other immediately proximate sites may impact the timing and extent of the resource extraction industry's interest in UMore Park.

5 Constructed between 1942 and 1945 to produce nitrocellulose (smokeless gunpowder), the facility operated for only a few months before closing. In 1947 and 1948, the federal government gave 8,000 acres and 162 buildings to the University of Minnesota. Following the end of WWII in 1945, and continuing through 1947, a majority of the GOW buildings were dismantled, burned, salvaged and/or were otherwise disposed.

A number of commercial and University research leases exist at UMore Park and the University regularly receives requests for additional leases, permits and easements. University and commercial agricultural activity occupies the site's prime agricultural soil, while non-agricultural commercial activity is largely located within the former Gopher Ordnance Works complex. The University offers short-term commercial leases to allow the University to quickly change uses if it identifies another preferred use.

In 2006, the Minnesota Legislature established a process for state support to the University of Minnesota football stadium and planned transfer in 2032 of 2,840 acres of UMore Park land (referred to in the legislation as "University Land") from the University of Minnesota to the Department of Natural Resources (DNR).⁶ Management and oversight of the University Land will be coordinated between the University of Minnesota and the DNR for 25 years. After this term, assuming full payment for the stadium, the land will be transferred to the state, but with continued rights provided in perpetuity to the University for fulfillment of its academic mission of research, education and engagement.

⁶ Minnesota Laws 2006, Chapter 247, Sections 137.50, 137.52, and 137.54

2.2 SITE CHARACTERISTICS AND CONTEXT

UMore Park is a 7,686-acre site located in central Dakota County, Minnesota. It is approximately twenty miles from Minneapolis-St. Paul and is within the seven-county Twin Cities metropolitan region. The northern portion of the site is located in the City of Rosemount; the southern is within Empire Township. The site borders Coates Township to the east. United States Highway 52 runs north-south and parallels UMore Park's eastern border. State Highway 3 runs north-south, parallel to UMore Park's western border. County Road 46 bisects the property into its northern and southern halves. County Road 42 and 190th Street form UMore Park's northern and southern borders, respectively. Suburban development characterizes the area to the north and west of UMore Park, while low-density agricultural use and conservation land comprise the land to the south and east.

UMore Park's real estate value is obvious, and growing. Located in the center of Dakota County, one of the fastest growing counties in the region, the UMore Park property extends into the City of Rosemount, which is projected to grow its population by 30,000 inhabitants by 2020 – an increase of 60%. According to the Minneapolis Star-Tribune, "Once just another plot of land in a sea of farm fields, UMore Park is now at 'the eye of the needle' as development expands to the southeast."⁷ Vehicular travel on the recently upgraded County Road 46 exemplifies the area's growth pressures: it has evolved from a gravel road to a two-lane highway carrying thousands of vehicles per day.

7 Smetanka, Mary Jane. "U Goes Slowly in Deciding Use of Valuable Land," Minneapolis Star-Tribune. November 10, 2005.

Summary of Market Trends and Initiatives that Impact UMore Park's Development Potential

Residential and Commercial Growth

Population projections for Dakota County indicate that the County population will exceed 500,000 residents by 2030.

Regional Wastewater Investments

The Metropolitan Council Environmental Services has recently developed a wastewater plan that will close the Rosemount plant and expand the Empire Township plant and requires construction of an effluent pipe that will circumvent UMore Park. Planned capacity at this plant accommodates the projected needs of UMore Park should it be developed as a community.

Dakota County Technical College

Dakota County Technical College seeks to expand its holdings into UMore Park land. Its immediate desire is to build an athletic complex.

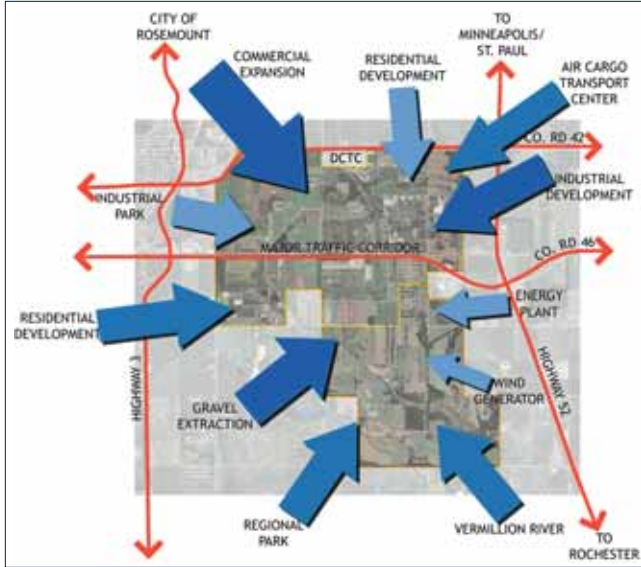
Flint Hill Resources

The oil refinery to the northeast of UMore Park has a crude oil processing capacity of about 280,000 barrels per day and has operated for 50 years. It also manufactures asphalt, heating fuels, and sulfur for fertilizers. The facility has plans to expand production within its existing acreage. Its existence likely inhibits growth and property values at UMore Park and other surrounding lands.

City of Rosemount

The City of Rosemount's Mayor views UMore Park as a "tremendous growth opportunity."⁸ It is the City's policy, as established through its comprehensive plan, to "support agricultural experimentation, education, and research within the University of Minnesota property; coordinate efforts with the University of Minnesota with the objective of establishing greenway corridors and other recreational and natural amenities on the University's property; strengthen

8 Interview with Rosemount Mayor Bill Droste on March 21, 2006. "Rosemount mayor delivers fourth State of the City address" by Erica Christoffer – Sun Newspapers. March 29, 2006.



UMORE PARK DEVELOPMENT PRESSURES

the visual and physical connection between the City's urban area and amenities within the University's property; and support urban expansion within the northwesternmost part of the University's property [near Dakota County Technical College] if it is considered to be advantageous by both governing bodies."⁹ According to its Comprehensive Plan, the City does not expect residential development on the UMore Park property within the 2020 planning period.¹⁰

Empire Township

The Dakota County Board of Commissioners adopted the Empire Wetlands Acquisition Master Plan in November 2004 (adopted by the Metropolitan Council April 2005), which details plans for a 460-acre park that would be part of a larger land and natural resource management partnership among the Minnesota DNR, Metropolitan Council Environmental Services, and the University of Minnesota (includes the 2,840 acres jointly managed by the University and the DNR through 2032¹¹). The plan proposes a regional park for public recreation and natural resource conservation.

9 2020 Comprehensive Plan Update, City of Rosemount, Sec. 3.1.2 "Agricultural Research." February 16, 1999 (date accepted by City Council).

10 2020 Comprehensive Plan Update, City of Rosemount, Sec. 1.1 "Executive Summary, Sec. 2.2 "Estimates and Forecasts," Sec. 4.1.4 "Traffic Analysis Zones." February 16, 1999 (date accepted by City Council).

11 Minnesota Laws 2006, Chapter 247, Sections 137.50, 137.52, and 137.54

Protection of the Vermillion River

Dakota County is involved, in coordination with DNR and the Trust for Public Land, in protecting the remaining undeveloped stretches of the Vermillion River threatened by rapid development. This initiative includes the 2,840 UMore Park acres under joint management, and identifies other lands to the west of that parcel for preservation.

Air Cargo Transport

The International Air Cargo Regional Distribution Center (RDC) was approved by Minnesota's legislature in the 2005 special session. Rosemount has been chosen as the site for the proposed facility.

Gravel Extraction

Aggregate deposits at UMore Park represent revenue generation opportunities of up to \$21 million¹². Market demand and completion of requisite environmental permitting will influence timing to capture this potential.

Gopher Ordnance Works

Ongoing studies will guide the University and federal government in understanding the potential costs and timing of any needed site remediation and potential to extract value from recycling the concrete of associated debris.

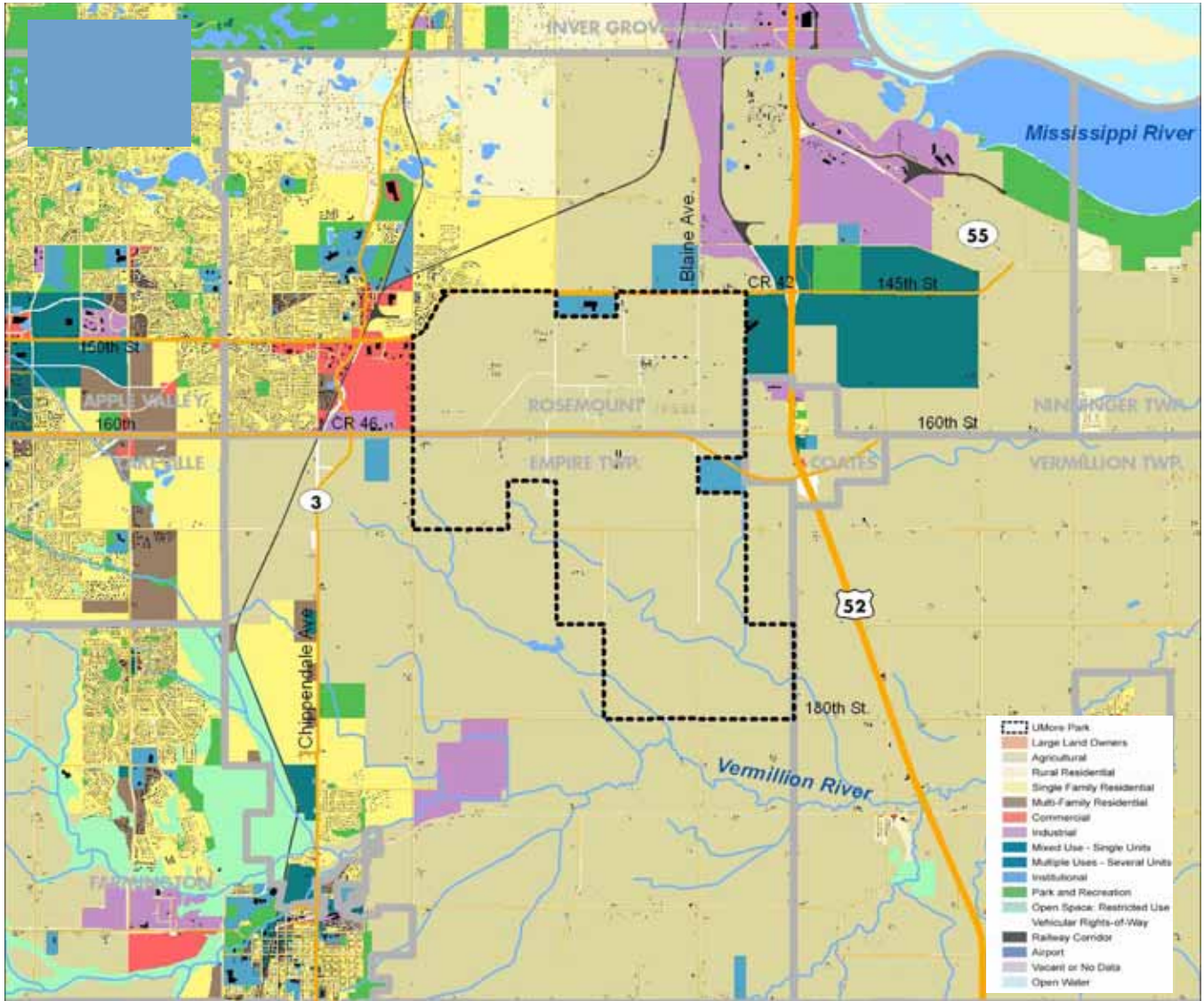
Regional Factors

Transportation

Dakota County is accessed by Interstate 35 to the west. Highway 52 bisects the county north-south, Highway 63 to the east, and Interstate 494 to the north. The region is auto-oriented; 63.7% of households reporting two or more vehicles per household in the last census.¹³ A park-and-ride transit facility in the Town of Apple Valley provides service to Minneapolis-St. Paul. By 2030, the region's area of potential transit service is expected to expand to include the area of UMore Park north of County Road 46. The 2030 Regional Transportation Plan identifies a twenty-two

12 2003 estimate

13 US Census data, www.census.gov.



DAKOTA COUNTY ZONING

mile bus-way and bus rapid transit service along the Cedar Avenue Corridor from the Mall of America in Bloomington to CSAH 70 in Lakeville. Federal and state funding is being sought for this new transit service that would link with improved transit service along Cedar Avenue to Eagan, Apple Valley, and Lakeville. In March 2004 a “Locally Preferred Alternative” was selected by the Dakota County Regional Railroad Authority. It recommends bus rapid transit running on highway shoulders throughout the bus-way corridor.

Education

Dakota County has a highly educated population in comparison to the State of Minnesota: 35% of Dakota County residents age twenty-five and older have a college degree. Dakota County has 101,596 enrolled students, or approximately 285 students for every 1,000 people. In the Farmington School District (District 192), there is an average of 780 students per school.¹⁴ In the Rosemount-Apple Valley-Eagan School District (District 196), there are on average 640 students per elementary school, 1,080 students per middle school, and 1,520 students per high school.¹⁵ In 2004, Dakota County elementary schools ranked third in the state for reading and math; middle schools ranked fourth; and high schools ranked third.

Housing

The County represents 11% of the total number of housing units in the metropolitan area. There are 131,151 dwelling units, of which 22.3% are in multi-unit structures. Multi-family home construction has exceeded single-family home construction in comparison to the Twin Cities MSA. Dakota County has a home ownership rate of 78%, which is considered high for the region. Average household size is 2.7 people per unit, less than the 3.08 people per unit and 3.17 people per unit in Rosemount and Empire Township, respectively.¹⁶

Waste Generation

In 2003, Dakota County generated, on average, about seven pounds of garbage per day for every resident.¹⁷ The 2005-2024 Dakota County Solid Waste Master Plan estimated 1.0677 tons of waste per resident, 42% of which was recycled.¹⁸ The County estimated that area landfills have five to seven years' capacity left.¹⁹

14 <http://www.farmington.k12.mn.us/>

15 Figures revised annually, <http://www.isd196.k12.mn.us/196profile.cfm>

16 US Census data, www.census.gov.

17 Dakota County Green Guide 2005-07

18 2005-2024 Regional/Dakota County Solid Waste Master Plan

19 Dakota County Green Guide 2005-07

Recreation

Park service area analyses demonstrate that the rapidly growing southwestern area of urban Dakota County is not well-served by the existing regional park system and the need for additional park acreage will grow over the coming decades.²⁰

Industry

Retail trade and service industries account for 44% of all employment in Dakota County (1996). Manufacturing continues to be a dominant sector, accounting for 17% of employment in the County. The top three employment centers for UMore Park area residents today are Eagan, Minneapolis and Bloomington. By county, Dakota County is the second-largest employment center in the area.²¹

Retail

The nearest retail center to UMore Park is in the City of Rosemount. The Mall of America in Bloomington can be accessed via public transportation (from the park and ride facility in Apple Valley) or by car via I-35 and Route 77.

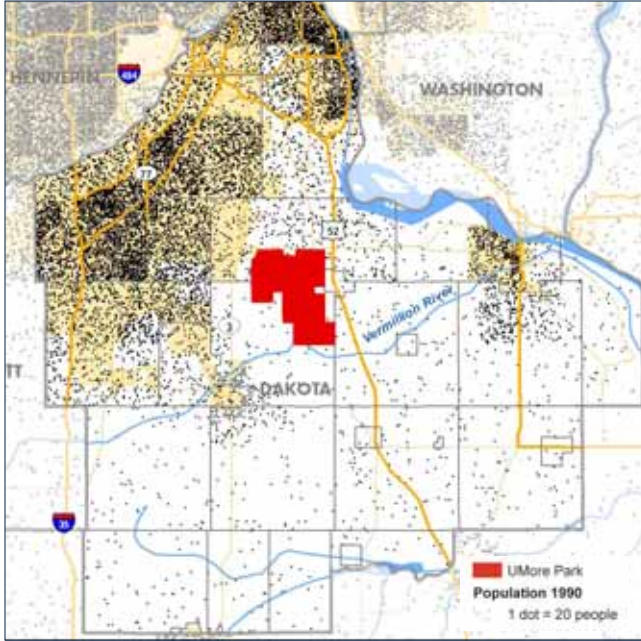
Government Policies and Objectives

A key planning issue identified in *Dakota County 2020*, the County's comprehensive plan, is population and development growth. The plan focuses on policies and implementation strategies that aim to manage growth through land use regulation, protection of natural areas and establishing recreation areas, by meeting transportation needs associated with assumed growth, and maintenance of the agricultural industry and heritage.

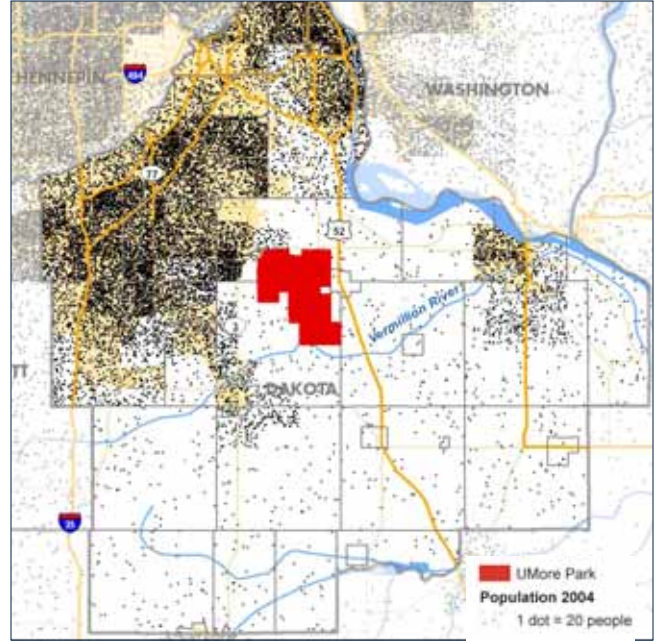
Two conservation initiatives may also influence UMore Park land management decisions. The DNR's Metro Conservation Corridors program is establishing a network of conservation land in the seven-county metro region. This initiative encompasses lands within the Vermillion River watershed,

20 Empire Wetlands Acquisition Master Plan, November 2004

21 Based on commute-shed data from US Census Bureau, LED Origin-Destination Data Base (2nd Quarter 2002 and 2003)



DAKOTA COUNTY POPULATION IN 1990



DAKOTA COUNTY POPULATION IN 2004

including the UMore Park land south of 170th Street. The second initiative is Metro Greenways, a DNR program that provides technical and monetary support to counties to inventory, restore, and protect their natural resources.

Demographics

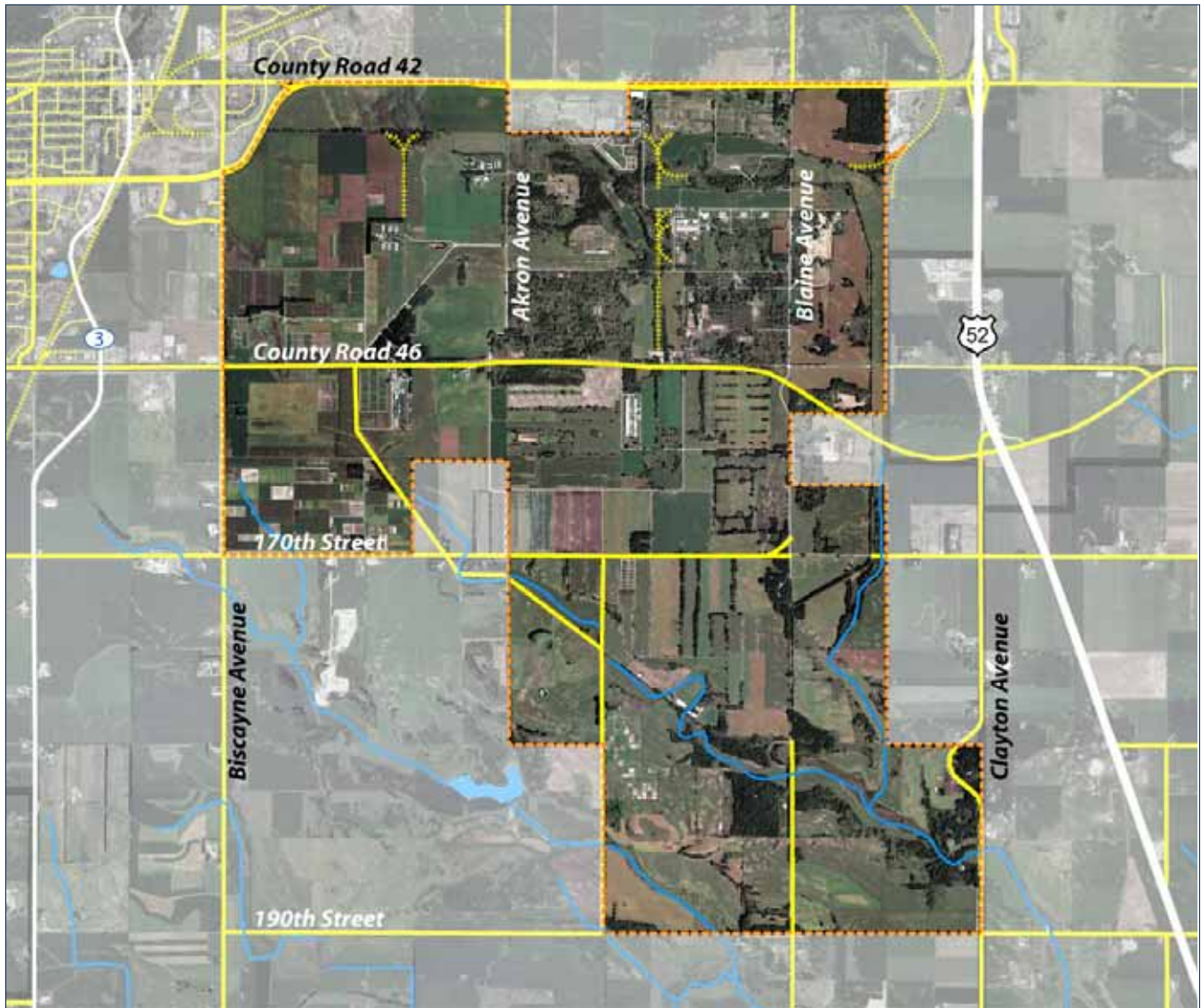
Over the last forty years, Dakota County has grown from a rural farming community to an area of substantial suburban growth. The strongest period of growth occurred in the 1960s with 4% Compound Annual Growth Rate (CAGR). Today, Dakota County is the third most populous county in Minnesota, hosting 355,904 residents – 14% of the Twin Cities metropolitan region population. As the seven-county Twin Cities region is expected to grow in the next 25 years, it is projected that Dakota County will host a significant portion of this new population for a net gain of 157,000 people by 2030.

Site Description and Analysis

At 7,686 acres (approximately twelve square miles), UMore Park is the largest undeveloped University-owned acreage contiguous to any major U.S. city. It is approximately a thirty-minute drive from Minneapolis-St. Paul. It is located at the urban-rural interface and in the pathway of development from three sides. An agricultural landscape typifies UMore Park's identity with remnants of past military use and fragments of a prairie heritage. Development and financial pressures are mounting; UMore Park is rapidly gaining in value, political visibility, and interest from many quarters.

Access and Circulation

UMore Park is serviced by U.S. Highway 52 to the east, State Highway 3 to the west, County Road 42 to the north, and 190th Street to the south. County Road 46 and 170th Street cut the property in half, while Biscayne Avenue forms the western border and Clayton Avenue forms the site's eastern edge. A network of public and private roads access UMore Park facilities. The northern edges of the site are served by existing railroad lines, in particular a railyard in Rosemount to the northwest and freight access into the



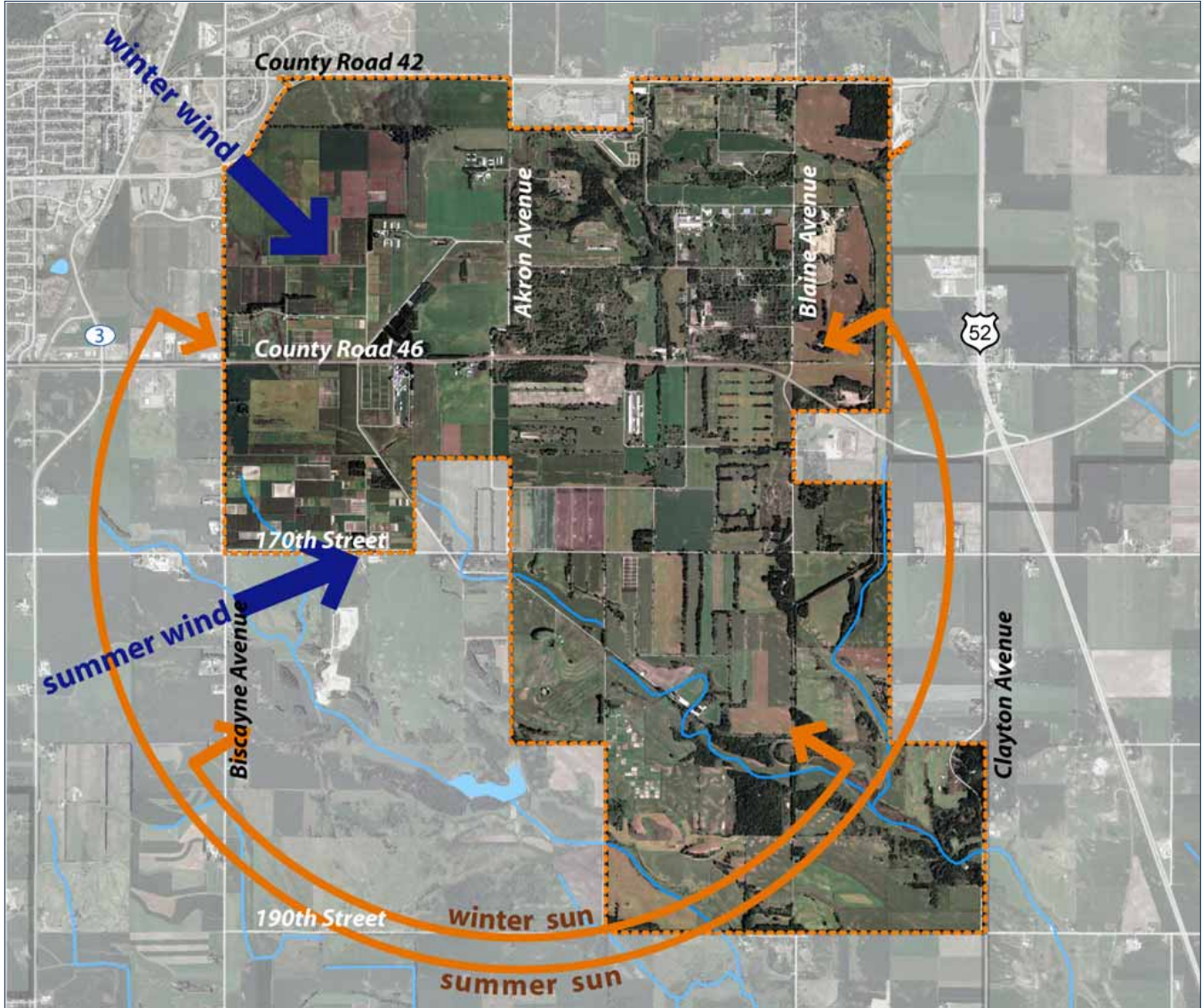
UMORE PARK ACCESS AND CIRCULATION

property to the northeast. The Lone Rock Trail, a ten-mile loop in the southeastern portion of the site, provides recreational access. The trail and surrounding land are part of the land identified in 2006 by the Minnesota legislature as “University Land.” For the next twenty-five years it will be managed by the University of Minnesota in coordination with the Department of Natural Resources. It is anticipated that it will, at that time, be transferred to the ownership of the State, but with continued rights preserved by the University of Minnesota in perpetuity to fulfill its mission of research, education and engagement.

Wind

Based on a report issued by the Minnesota Department of Commerce, Minnesota ranked first in the nation in terms of installed wind capacity from 1995 to 2000.²² The State of Minnesota is fortunate to have a combination of excellent wind resources and utilities that are buying wind power at a time when wind power development is stagnating in other

²² *Wind Resource Analysis Program Report 2002*, Minnesota Department of Commerce, http://www.state.mn.us/mn/externalDocs/Commerce/WRAP_Report_110702040352_WRAP2002.pdf.



UMORE PARK SUN AND WIND PATTERNS

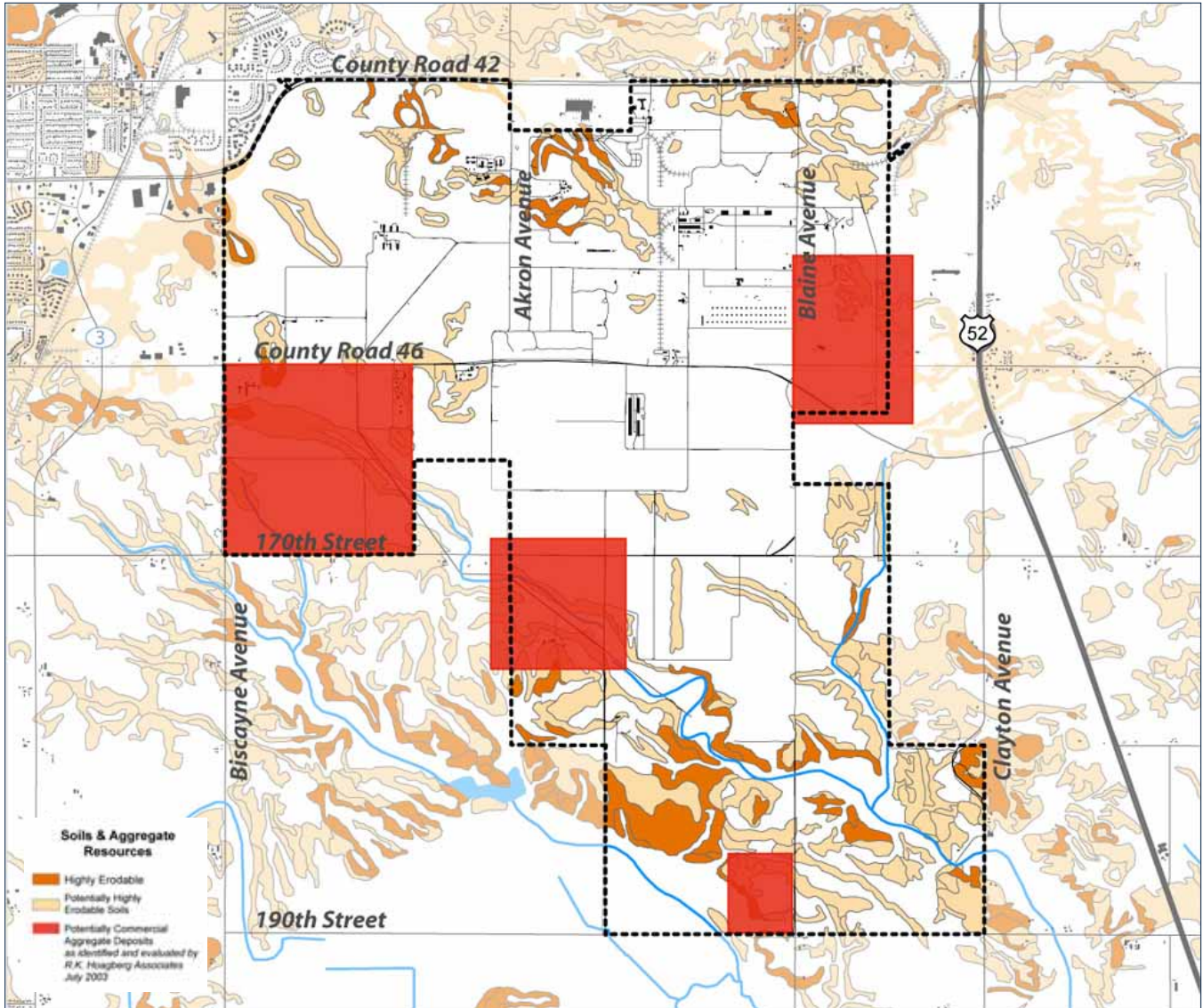
parts of the United States due to uncertainty about the future of the electric utility industry.²³

UMore Park is uniquely positioned to accommodate wind power. Existing wind installations are highly concentrated in a very small geographical area in southwestern Minnesota along the Buffalo Ridge. However, transmission capacity along Buffalo Ridge is severely constrained and the state is encouraging future energy projects to be much more widely dispersed. UMore Park is located in a region where

wind capacity is only slightly less than that of Buffalo Ridge and would provide new opportunities for wind power without having to build new high voltage transmission lines. UMore Park's proximity to load/demand in the Twin Cities may be attractive to utilities and they may be willing to pay a premium for excess power through a Power Purchase Agreement.

Prevailing summer winds are from the southwest and prevailing winter winds are from the northwest. UMore Park is well positioned to capture and utilize energy from local

²³ <http://www.me3.org/projects/seed/localfease.html>



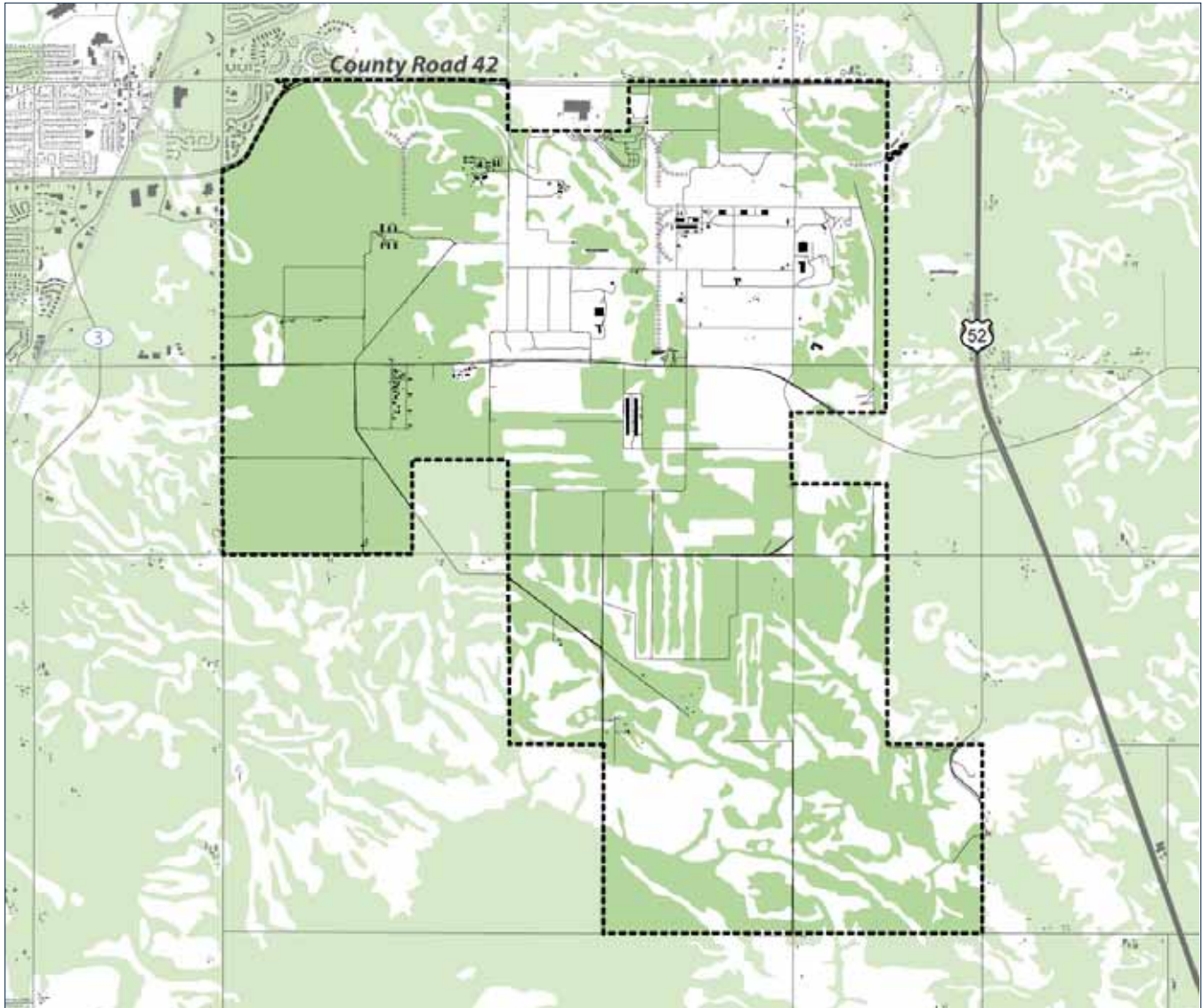
UMORE PARK SOILS AND AGGREGATE

wind patterns with average wind speeds ranging from 16.3 to 17.2 mph.²⁴

Recently, the University of Minnesota campus in Morris commissioned the University's first large-scale utility turbine. The turbine was completed in April 2005 and is being used for energy generation on the Morris campus and as a research instrument at the West Central Research and

Outreach Center. When examining wind conditions for both Stevens County (Morris) and Dakota County (UMore Park), it is likely that a turbine at UMore Park would be only slightly less efficient than at Morris, yet highly feasible. The reason for this is that the Morris turbine is located on a ridge, and the UMore Park site is not. Other wind turbines have been erected nearer to the UMore Park area demonstrating the feasibility of harnessing wind power in Dakota County.

²⁴ 14th Wind Resource Analysis Program Report. Minnesota Department of Commerce. June 2002.



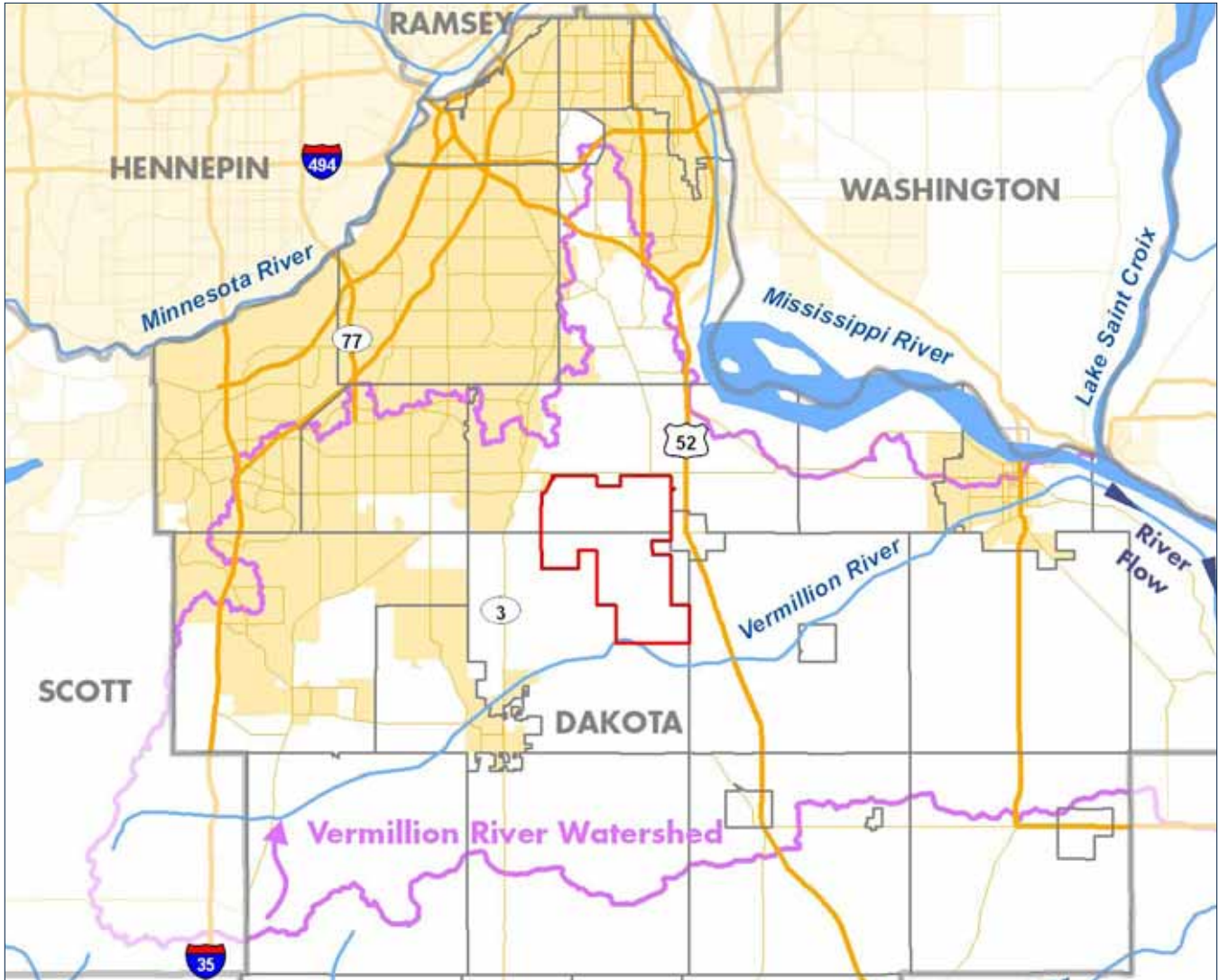
UMORE PARK PRIME AGRICULTURAL SOILS

Soils

Southern Rosemount is in the glacial flood plain and was once part of a treeless prairie. There are numerous sand and gravel deposits in this area as well as acres of flat, open farmland.

Highly erodible and potentially highly erodible soils exist in scattered sites around UMore Park, generally consistent with areas where slopes are greater than 20%. There are

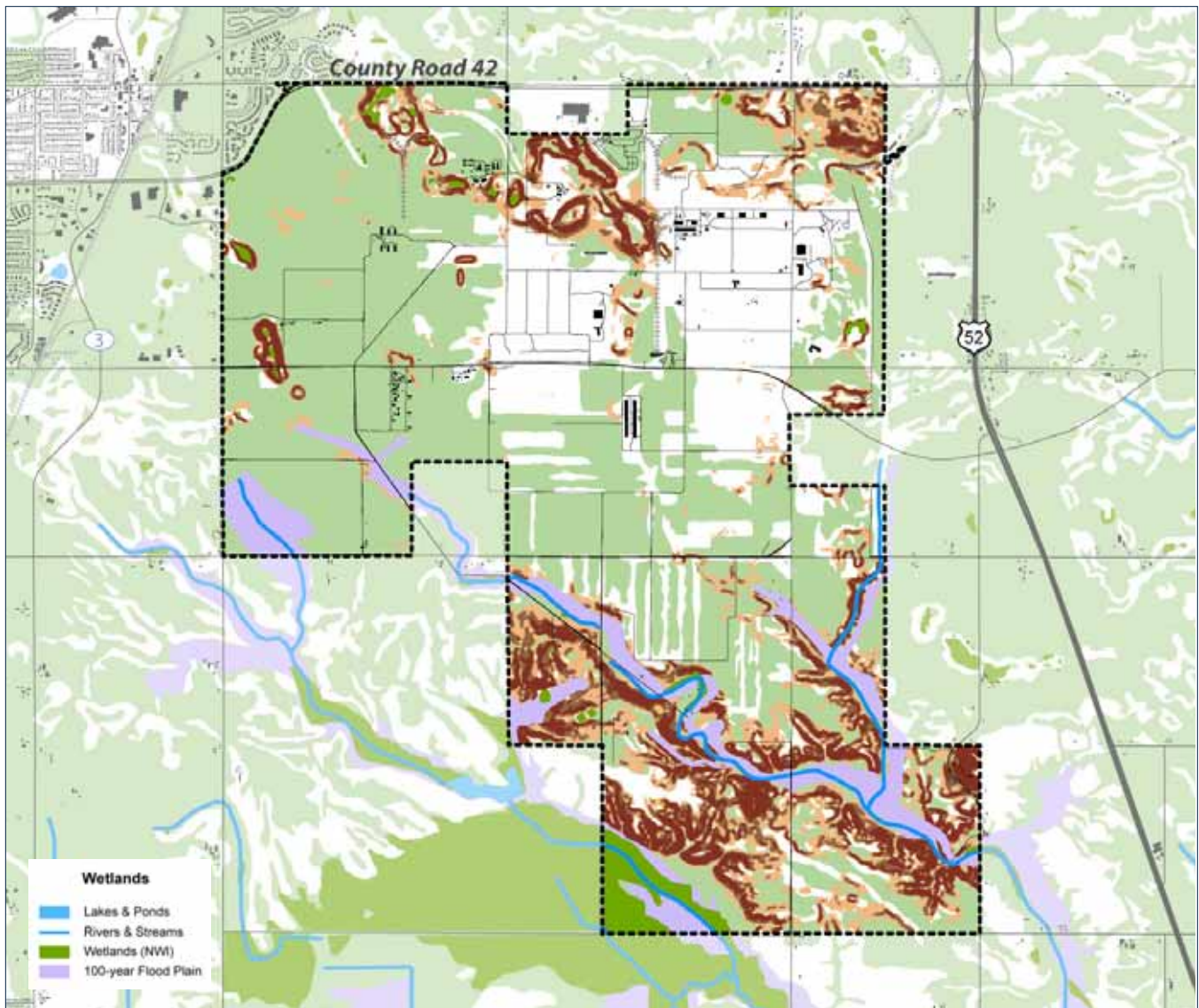
approximately 4,600 acres of prime agricultural soils, which make up the majority of the site except for the Gopher Ordnance Works area.



UMORE PARK WATER RESOURCES

Water

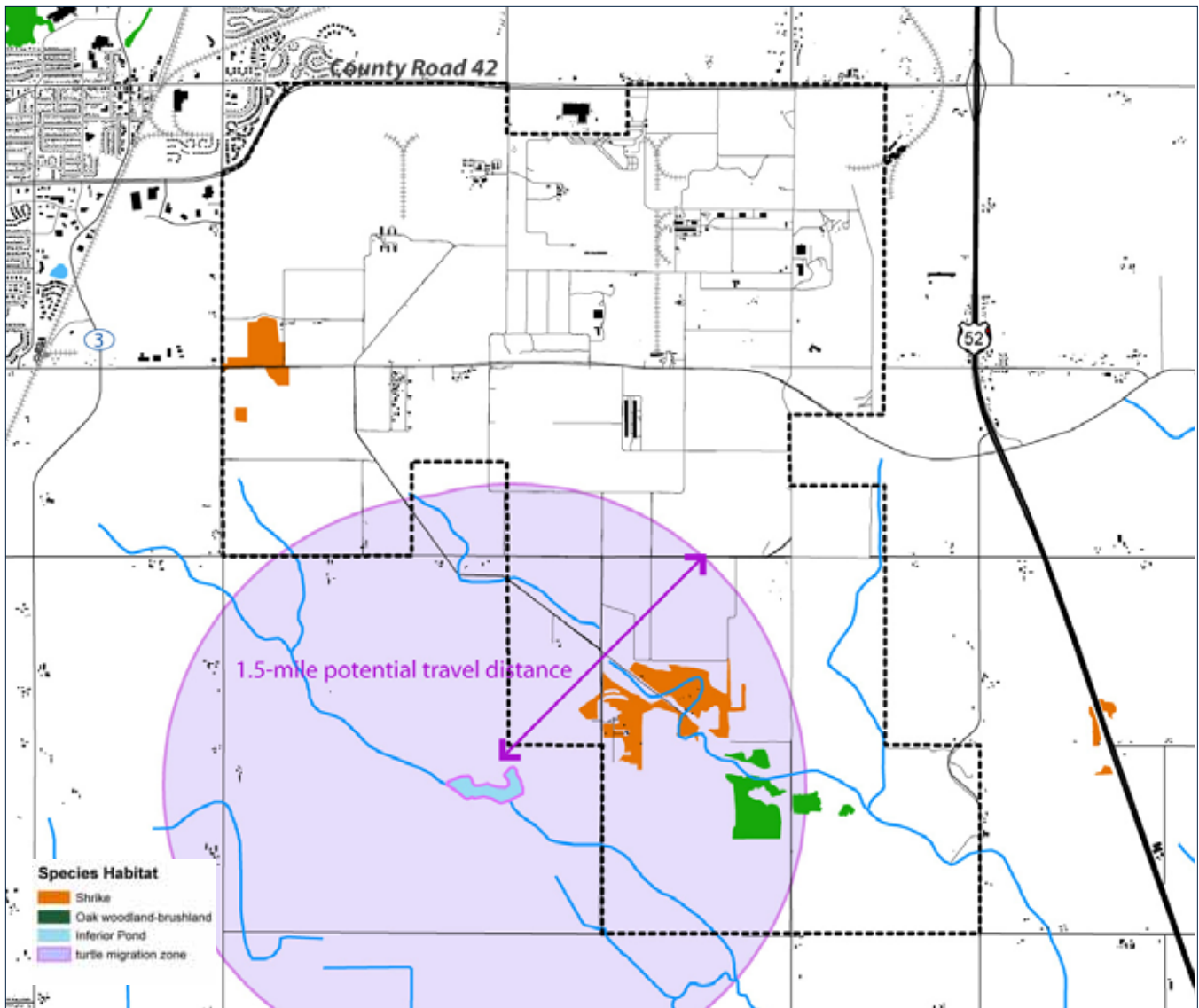
UMore Park is part of the Vermillion River watershed. While some scattered wetland spots exist in the northern part of the site, most of the 135 acres of wetlands are contained south of 170th Street near the Vermillion River tributaries.



UMORE PARK TOPOGRAPHY

Topography

Though the topography is generally flat across the site, there are locations where slopes exceed 30%. Of the 7,646 total site acreage, 1,050 acres have slopes of 20% or greater. These areas are concentrated on the southern portion of the site south of 170th Street, as well as scattered patches to the north of the site, primarily north of the Gopher Ordnance Works facility.



PRIORITY WILDLIFE HABITAT AT UMORE PARK

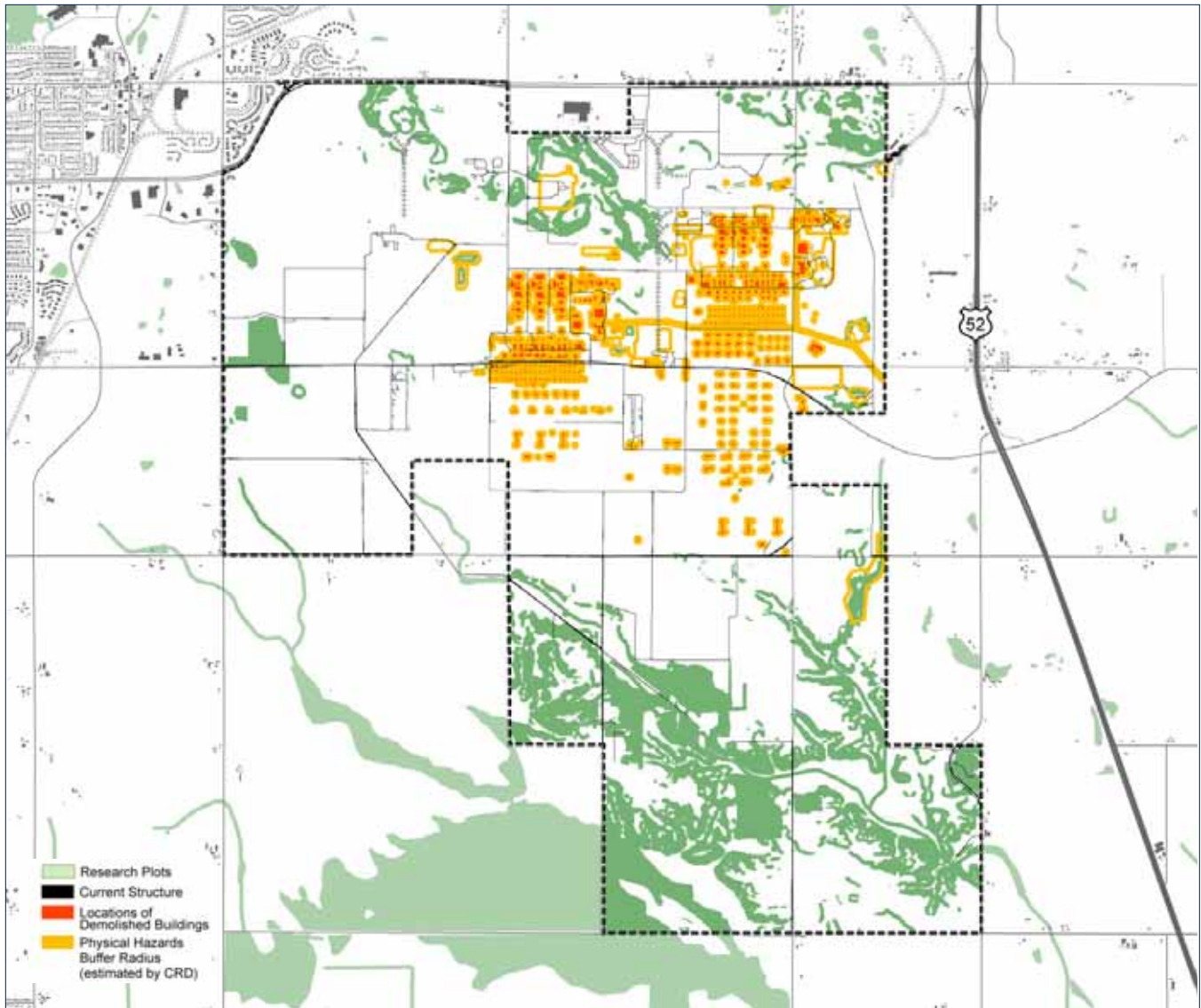
Priority Habitat

Most of the ecologically significant landscape at UMore Park is south of 170th Street. Habitat that is important to the loggerhead shrike (*Lanius ludovicianus*), a Minnesota threatened species, is primarily contained in this area with a secondary area straddling County Road 46 near UMore Park's western edge. Another Minnesota threatened species is Blanding's turtle (*Emydoidea blandingii*), which may be present on lands around Inferior Pond to the south. According to the Natural Heritage Program, the potential

migration zone for Blanding's turtles extends 1.5 miles into UMore Park from Inferior Pond.²⁵

Dakota County is primarily Eastern Broadleaf forest, which bridges the transition zone between prairie to the west and true forest to the east. Typically, the area is characterized by a mosaic landscape of prairie, forest and wetland communities. UMore Park's agricultural fields occupy what

²⁵ Congdon and Dunham, "Delayed sexual maturity and demographics of Blanding's Turtles." Minnesota DNR Natural Heritage and Non-Game Research Program Environmental Review Fact Sheet Series. Blanding's Turtle. September 2001.



GOPHER ORDNANCE WORKS

were once prairie grasslands, remnants of which exist in some places around the slopes of the Vermillion River tributaries. Fire disturbance moving northward from the prairies maintained the specialized oak woodland-brushland flora.²⁶ UMore Park's ecologically fragmented landscape contains patches of prairie habitat critical for sustaining native flora and fauna.

²⁶ DNR, Scientific and Natural Areas. 2006.

Human Impact

The Rosemount area was inhabited by the Lower Band Mdewakanton of the Santee Sioux tribe until 1851, when Chief Little Crow, the leader of the New Ulm Indian uprising, signed a treaty at Pilot Knob, Mendota, turning the land over to the government. Settlers of European descent then inhabited the area and developed it as farm communities.

The Gopher Ordnance Works (GOW), an industrial military plant erected during World War II, transformed the



UMORE PARK OVERLAID ON THE TWIN CITIES

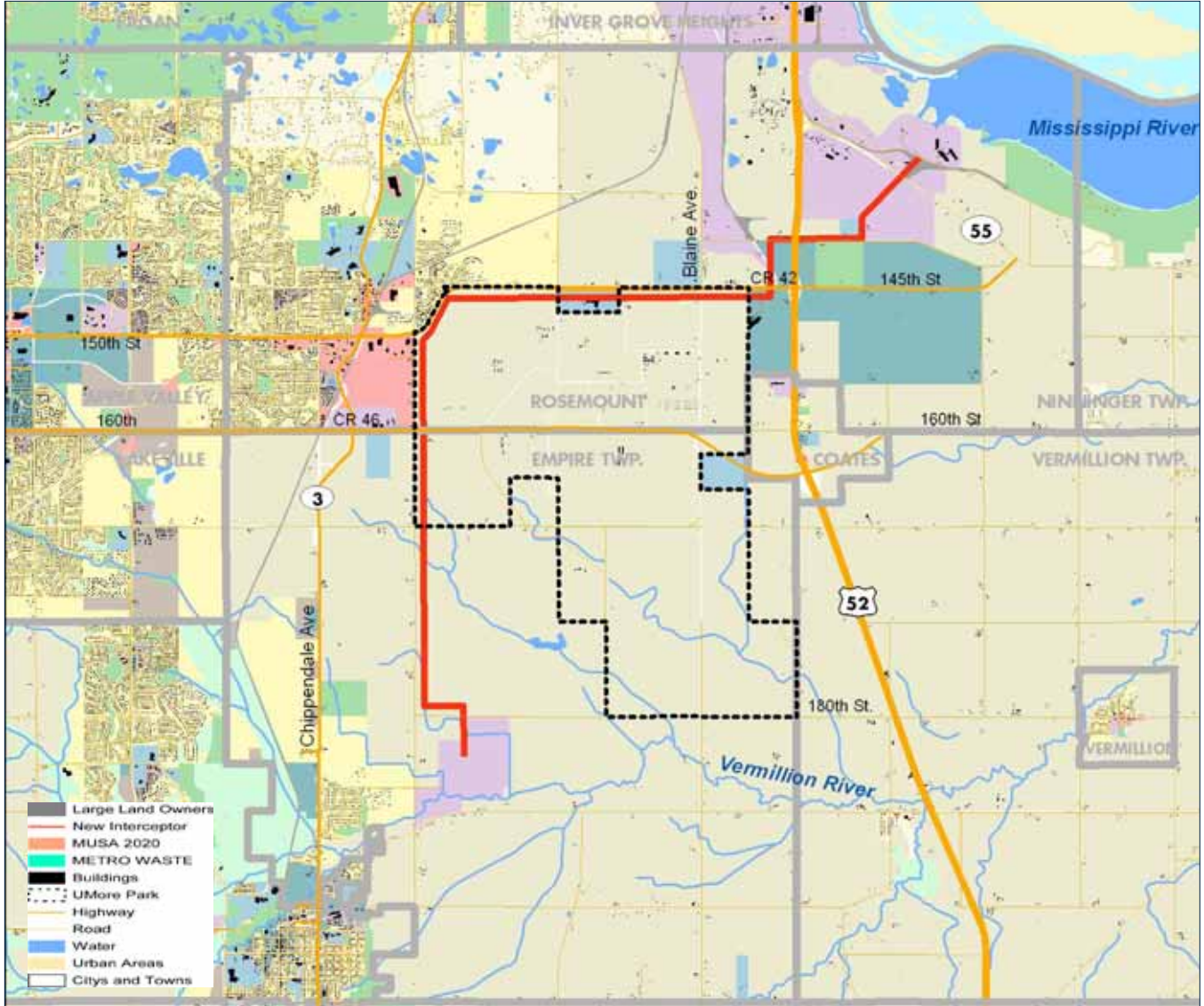
farmland. To produce “smokeless powder,” the government stripped the land of farm buildings, roads, utility lines, cropland and pasture, and replaced them with a complex of approximately 800 wood and concrete manufacturing buildings, many of which still stand. Acids, neutralizers and other solvents were used in the manufacturing process. These chemicals were present in some areas and buildings. To date, contamination has been identified and remediated, and the need for further remediation is under study.

Other human impacts, subsequent to the operation of the Gopher Ordnance Works, include applications of chemical pesticides and herbicides. The University also conducted studies on the reuse of sewage sludge as crop fertilizer. Additionally, the University used UMore Park to store hazardous waste from its hospitals and science units. The residual environmental effects of these activities have not been fully explored.

On average, 600 to 900 acres are maintained in agricultural production. Rotation of research plots over the past five years has involved a total footprint of about 2,000 acres. This University use has a practical value to researchers and represents the agricultural tradition of the University’s land grant mission to many of its neighbors.

Infrastructure

While Dakota County and the Minneapolis-St. Paul metropolitan area have adequate infrastructure (water, sewer, power, internet) to serve UMore Park, the timing to make these systems accessible to development at UMore Park is unplanned. The Rosemount plant is the region’s smallest facility, treating 800,000 gallons of wastewater per day. The plant will close in 2007. It will be replaced by a lift station and interceptor to convey the wastewater to the Empire plant for treatment.



UMORE PARK WASTEWATER TREATMENT INFRASTRUCTURE

The Metropolitan Council Environmental Services has recently developed a wastewater plan that will close the Rosemount plant and expand the Empire plant, which requires the construction of an effluent pipe that will circumvent UMore Park.

Planned capacity of the Empire plant accommodates the projected needs of UMore Park should it be developed as a community. The Empire plant, located near the Vermillion River, serves approximately 99,000 people in several communities in Dakota County. The plant treats an average

of 9 million gallons of wastewater per day (mgd); its current capacity is 12 mgd. To meet the growth of the service area, construction is underway to double the size of the plant by the end of 2006. To avoid harm to the Vermillion River, the treated wastewater will be conveyed 13 miles through a new outfall pipe for discharge into the Mississippi River. The regional road system is adequate for current needs but not for a redeveloped UMore Park. Advancement of this planning process will necessitate studies and plans to develop roads within the site and enhance the capacity of

the supporting road system. Planning for a rail connection between UMore Park and Minneapolis is plausible as a function of potential demand but will take a considerable lead time to develop.

2.3 SITE RESOURCES

Minnesota's sand and gravel industry ranks eighth in the United States and offers significant economic benefits, particularly when operations are located close to where the resource will be used (as would be the case with UMore Park). Aggregate mining operations occur in nearly every county in Minnesota. Aggregate materials are the essential elements of a variety of construction products, such as concrete. Silica sand, fine sand composed of quartz, is mined in the southeastern part of Minnesota. Its uses include glass-making, as a source of silicon, and improving flow in oil wells.

In Minnesota, gravel mining operations are generally under the jurisdiction of the host locality. This entity may have specific regulations for development, operation, or reclamation of a pit. Additionally, a number of state and federal permits may apply that pertain to water quality, water discharge, wetlands, air emissions and mine safety. Environmental review in the form of an Environmental Assessment Worksheet (EAW) is required for operations that will exceed 40 acres to a mean depth of 10 feet. Local governments are typically responsible for the preparation of an EAW.

There are no statewide requirements or funds for the reclamation of gravel pits in Minnesota. Sand and gravel operations, including reclamation, are most directly handled at the local government level (township, city, and/or county). Plans for the reclamation of currently active gravel operations may be included as part of the mining plan developed by the pit operator and may be required by a local government.

While there are no state funds for gravel pit reclamation, twenty-eight counties, including Dakota County, administer the Aggregate Material Tax.²⁷ In these counties, 10% of the tax raised from current gravel operations is set aside for the reclamation of abandoned gravel pits on public land. Several gravel pit reclamation projects on public land have been partially funded by the proceeds from this tax.²⁸ Counties, townships or municipalities typically have the primary authority for regulating extractive uses like aggregate mining. In many counties, aggregate mining requires a Conditional Land Use Permit (CLUP) from the county planning and zoning office. A township or municipality may also require a permit in addition to (or instead of) a county permit. Local permits are generally required for new operations that exceed a certain threshold of activity, or for expansion of an existing operation. Local permits may address issues such as hours of operation, noise, traffic, dust, and reclamation.²⁹

An end-use plan for redevelopment of a sand and gravel site will ensure its return to an attractive appearance, avoid erosion and sediment-related problems and, most importantly, provide the opportunity for reuse value. Some sand and gravel pits require more extensive reclamation or progressive reclamation, depending on the intended end use of the site. The objective of progressive reclamation is to reclaim as soon as the gravel is removed and an area is permanently abandoned.³⁰ The main components of reclamation are:

- Site Stabilization and Grading: Slopes in the range of 3:1 to 10:1 are generally satisfactory for forestry, recreation, and some agricultural uses.
- Reapplication of Soils: Topsoil should be spread at a depth of 6-18 inches. Prime farmland must have a minimum of 48 inches of topsoil and subsoil.
- Establishing Vegetation: Vegetation should be established by the first full growing season following mine closure. Replanting trees, shrubs, and native vegetation is crucial to the reclamation process. These plantings should be monitored for several years to observe signs of erosion or other failures.³¹

Once reclamation is achieved and maintained, a variety of land uses may occur on the site. Examples provided by the National Mining Association and the Minnesota Department of Natural Resources are schools, recreation centers, parks, malls, government facilities, airports, housing, golf and agriculture. Land reclamation, when properly designed, can introduce interesting topography and manmade water bodies to complement new building construction or parks.

27 Minn. Stat. 298.75

28 Minnesota Department of Natural Resources, Division of Lands and Minerals. http://www.dnr.state.mn.us/lands_minerals/mining.html, accessed March 14, 2006.

29 Minnesota Department of Natural Resources, Division of Lands and Minerals, Environmental Regulations for Aggregate Mining, Fact Sheet 1, January 2001. http://files.dnr.state.mn.us/lands_minerals/aggregate1_mar01.pdf, accessed March 14, 2006.

30 Minnesota Department of Natural Resources, Division of Lands and Minerals, A Handbook for Reclaiming Sand and Gravel Pits in Minnesota, July 1992, page 18.

31 Minnesota Department of Natural Resources, http://files.dnr.state.mn.us/lands_minerals/aggregate2_mar01.pdf.

2.4 TENANTS, CONTRACTS AND COMMITMENTS

Listed below are the parties who currently use UMore Park vocationally: units of the University of Minnesota, the federal government, and private parties.

University Units at UMore Park

Rosemount Research and Outreach Center is used by the faculty of:

The College of Food, Agricultural and Natural Resource Sciences

- Agronomy and Plant Genetics
- Soil, Water and Climate
- Plant Pathology
- Animal Science
- Entomology
- Horticultural Science

University of Minnesota Extension Service

External Units:

USDA Cereal Disease Lab (adjunct faculty with Plant Pathology)

US Forest Service (*adjunct faculty with Plant Pathology*)

Rosemount Research Center

College of Veterinary Medicine's Research Farm, includes use by Research Animal Resources

University of Minnesota Police Department Range Facility, Includes Uses by:

- FBI and other federal agencies (ATF, etc.)
- Police departments of local municipalities
- Sheriff's offices of local counties
- Other police jurisdictions (State of Minnesota Departments, etc.)

College of Design's underground storage facility (use through 6/30/2016 only)

Environmental Health and Safety's hazardous waste storage buildings (4 buildings, 2 are licensed for temporary radioactive materials storage-continuing until permanent storage sites are located)

98 University units have storage at UMore Park

Third-Party Tenants at UMore Park

Forty-Four Leases:

31 commercial leases

- 7 farming (agricultural crop production) leases

- 6 residential leases

All on month-to-month leases, except these year-to-year leases:

Dakota County Sheriff's Office Communications Tower

Dakota County Gun Club

Dole Explosives (land lease only; building space leased month-to-month)

Jensen Field

Minneapolis Bomb Squad

Reese Enterprises

Specialized Environmental Technologies

Tri-Valley RC Flyers

All 7 farming leases (agricultural crop production)

Minnesota 49ers Training Program (terminated effective November 30, 2006)

And except these leases (termination date noted):

Dakota County Technical College (105 Acres), through June 30, 2008

Pahls' Market, through November 30, 2010
Minnesota Public Radio, through March 31, 2031, plus One
40-Year Option

Permits and easements on site have been granted to:

Dakota County (Dakota Trails Association) for snowmobile
trail
Frontier Communications for telephone lines
Northern Natural Gas for gas lines
Xcel Energy/Northern States Power for electrical lines
Cooperative Power Association for electrical lines
Dakota County Electrical Coop for electrical lines
Mid-America Pipeline Company for LPG products pipelines
Dakota County for County Roads 42 and 46, slopes
and bridges
Rosemount Township for slopes
Metropolitan Council for Empire outflow pipe and sewer
lines
City of Rosemount for water main
Peoples Natural Gas for gas lines
Dakota County Technical College for water well



UMORE PARK MARKET ANALYSIS AND DEVELOPMENT STRATEGY

CHAPTER THREE

3.1 INTRODUCTION

Employing the findings of an in-depth market analysis of Dakota County's demographic profile and market rates and trends, the Sasaki Team created and tested three development models for UMore Park.

In the spring of 2006, as the viability of developing a master-planned community came into focus, the UMore Park Steering Committee met with two national-scale developers – Forest City Enterprises and Hines – to test interest in forming a partnership between the University and a large-scale community developer. Each presented their qualifications to the Steering Committee and described how prior experiences might relate to opportunities at UMore Park. As part of these initial discussions, the Steering Committee was invited by each developer to visit their precedent projects.

The structure for University administration of a potential development partnership was considered through study of colleges and universities that manage significant levels of non-academic real estate. For some, the mission that allows for this activity is explicit: to augment the University's economic base and quality of life in the host community. Some of these offices develop large-scale mixed-use projects and play prominent roles as land developers in their local and regional markets.

Members of the UMore Park Steering Committee visited four sites to further analyze the potential direction for UMore Park's development. These included UniverCity at Simon

Frasier University (Burnaby, British Columbia); University Town at the University of British Columbia (Vancouver, British Columbia); Stapleton (Denver, Colorado); and Palencia (St. John's County, Florida). Visits to these locations allowed UMore Park Steering Committee members to meet with representatives of the respective institutions involved in the planning and development of these sites and collect more information on the projects and their evolution than is publicly available.

The Steering Committee visited UniverCity and University Town because they are university-sponsored, large-scale community developments that mix uses. Both are expected to generate significant revenue for their host institution and enhance the institution's legacy. They visited Stapleton and Palencia at the invitation of Forest City Enterprises and Hines, their respective developers and the two entities that have, to date, met with the UMore Park Steering Committee to indicate the nature and extent of their potential interest in UMore Park. Through the latter two visits, members of the UMore Park Steering Committee were able to further develop a relationship with each of the entities, observe first-hand the quality of their design and construction, and, as with the institutional sites, gain information and insight not otherwise accessible through literature searches.

The in-depth market analysis of UMore Park land concludes that the University of Minnesota has an enormous land asset that has been untapped for decades. The property, sitting in Dakota County, is in the path of suburban growth, with new

development occurring at the western edge. The land has the capacity to generate revenue to underwrite the University's education and research missions as well as promote the cutting-edge thinking of the school and its forward thinking policies.

There are many approaches to capitalizing on this asset, ranging from passive to proactive. The potential financial returns and positive impacts of the use of the land grow as the University takes on a more aggressive role to positively shape the site's development patterns. However, as the University takes a more active role the costs of development and associated risks also increase. The decision makers must consider development options from many perspectives and decide how to best utilize this financial asset. This full market report describes the options, their implications, and the economics of the land planning and development process.

The UMore Park property contains about 5,000 acres of contiguous land in the southeast section of Metropolitan Minneapolis – St. Paul in Dakota County. From an investment perspective, this land's value has not been maximized, nor has its value to University missions been enhanced. As with any type of financial asset, the prospects for its return are shaped by a number of factors. For real estate those include:

- The demographics of the marketplace – the basic underlying economic base trends that are shaping future demand for development of land
- Current and expected character of real estate markets;
- Competitive position of the site's location
- Allowable uses for the land and its capacity for development
- Financing scenarios and cost of capital

Through its market analysis the Sasaki Team found the following:

1. The seven-county Minneapolis region has had steady population growth since the 1990's, which is expected to continue and approximately double by the year 2030.

New growth is forecast to be spread throughout the region. However, these forecasts are based on existing and defined community comprehensive plans that are not necessarily market based. Forecasts for Dakota County are strong but subject to change, with the potential to increase with a well-conceived development strategy at UMore Park. The current population is well educated with median household incomes well above US averages.

2. The regional economy is diverse and growing, with representation from some Fortune 500 firms, leading to job and business development.
3. Household growth has been at a faster rate than population growth in the metro area as the average household size has fallen. Dakota County comprises 10% of the housing units in the metro area, and has seen active housing development, largely in Empire Township and Apple Alley, but also in the Rosemount area. Future housing development is expected to keep pace with population growth in the county – and likely to be consistent with the current stock that is largely single-family, with some shifts toward housing that is oriented to smaller, older households.
4. The region's office market is considered to be overbuilt with the average vacancy rate at about 15% and a vacant supply of 10 million square feet – at current absorption rates it would take about seven years to absorb this excess space. The industrial market adds about 16 million square feet a year, and development is largely build-to-suit buildings that have been constructed along major transportation routes. These markets offer limited potential for the UMore Park property as there are site with better major highway access.
5. The region has about 60 million square feet of retail space, of which 6 million has been added since 2002 during the recent hot real estate market. Vacancy rates are low and the region's supply of retail space is 15 square feet per capita, well below the nation's average of 20 square feet per capita. However, the UMore Park site

does not have the highly desirable highway interchanges to offer to major retail projects like regional or super-regional shopping centers, implying that neighborhood-linked (e.g. town center) development is optimal.

In summary, the UMore Park property has locational and market-based strengths and weaknesses. It is in the path of the residential growth to the southeast and west of the site. This bodes well for strong future residential and opportunities on the property. Its distance from a major highway will limit demand for most types of larger retail, office and transportation-linked industrial uses. As a result, the most likely development scenario is one that serves residential demand, residential-driven office and commercial uses and some industrial uses.

Market values for this study were estimated with the understanding that this large site has degrees of access to a wastewater line run by the Metropolitan Council on the west edge of the property. For this reason, land values on the west side of the property are higher because of their direct access to this line. Land towards the southeast corner of the site has less accessibility so land value is limited. The estimated current value of land under these scenarios (assuming the baseline concept plan for the site is accepted by the Met Council) is \$31,000 per acre, which is a weighted average of land values. Potential contamination issues associated with the site are not considered in this value - a detailed environmental assessment will help assess potential impact on value from contamination.

Hold Land without Development (Scenario A). This is a passive approach to asset management. There is financial risk that opportunities for the property will be diminished as other development and municipal planning factors shape the character of the Marketplace and even capture a substantial share of real estate development demand. The site is likely to remain competitively positioned after ten years but could miss out on such things as light rail as it remains unused. Recent rates of land appreciation are not likely to continue given evidence the economy is slowing and interest rates are rising. An appreciation rate of 4% was applied to grow the

current large-parcel land values during the ten year period. Land values in 2016 at this rate of appreciation would be at about \$45,000 per acre, with a 2006 value of \$31,000 per acre. In addition to the land value there are aggregate mining (estimated at between \$14 and \$21 million) and concrete recycling opportunities, but these income-generating activities could be conducted over all three scenarios if planned accordingly.

Sell Land at Wholesale Prices (Scenario B). Demand for land reflects either developer's perceptions of market-driven demand; or speculator's expectation of appreciation. In this scenario, there is no University involvement in the process and demand for land would be based on continued household growth and construction of housing products similar to what is now being built (and commercial / industrial sales that reflect the character of the site). The value that bulk purchasers would be willing to pay is expected to be comparable to actual sales activity in the area and would discount larger parcels. Current land values are estimated at \$31,000 per acre (see "Land Value" section for details).

Develop a New Community (Scenario C). Case study and literature research indicates that master planned communities have higher market values and typically stronger sales and leasing activity compared to subdivisions and other forms of unplanned growth. This scenario creates sales forecasts for incremental value to the University in several ways. The University's involvement in a sustainable environment that offers health, education and recreational amenities will "grow" market demand and thus increase the rate of sales. It also will enhance the potential to create a more dense, planned development that optimizes land use and land value. This essentially gives UMore Park a market share that is larger than the previous scenario, given the quality of the product, leading to faster land absorption. Moreover, the University can become an equity partner and share in the developer's profits. There is the chance to leverage other revenue streams such as transfer fees as has been done in the redevelopment of Stapleton Airport in Denver.

In considering developing a new community at UMore Park, it is assumed that the land value incorporates trunk-level infrastructure and basic land improvements as well as entitlement changes that allow the land to be developed according to a master plan. Because there are so many undetermined variables (i.e. the nature of the relationship between the University and a potential national developer, the details of the level of university involvement at the site, and the level of detail of a master plan for the community, to name a few), it is difficult to estimate a value for this scenario. However, it is possible to discuss potential increments to existing values, based on the Sasaki Team's experience as well as published research on enhanced values from master planned communities. Bringing the site up to an improved level alone can increase the value up to three to five times the current estimated values.

There is added value in developing master planned communities. This enhanced value generated by master planning can add up to 30% in market land value. This can come from a 20% to 45% reduction in the amount of land used, 15% to 25% reduction in infrastructure costs and 7% to 15% less outlays for water and sewer lines from increased density. This scenario offers substantial potential for enhanced financial returns, but there are also associated risks. The degree to which a master plan impacts the value of a site is based on financial, social, and environmental factors. A clear vision and well-designed master plan are critical in securing maximal value from the land – establishing development rights and selling raw land at a higher value than the sum of the purchase price and/or other investments.

These scenarios take the land from a “do nothing” approach to the sale of raw land to infrastructure-served, development ready property as part of the planned community. These create a continuum of value dependent on the level of planning that is ultimately reflected in the three scenarios.

Raw Land (Agricultural Value) → Development Ready Land
 → Development Ready Master Plan

Lowest Value to University → Highest Value to University

Consequently, there is also a continuum of risk dependent on the level of planning. However, the risk can be mitigated by having a well-thought, well-executed plan. This is possible if the University partners with a national developer that is an expert in executing large-scale, planned communities.

There is a question of timing for the University in terms of value for the University by acting now (Scenario B and C) versus acting later (Scenario A). The reality is that the area around Rosemount is developing and the University has the greatest opportunity in Scenario C to steer the course of development. Under Scenario B the site opens a large tract of land that would otherwise be an island in a sea of development activity, which leads to leap-frog development (and potentially leads to higher development costs later). In Scenario C, initiating development of a master planned community in the near future creates an opportunity for the site to drive the character of other development activity in the area. Ultimately, it could encourage different types of adjacent development and lead to even higher site values. Scenario A and B bring in some value from potential aggregate mining, concrete recycling, etc., but these activities also could take place in the master plan scenario. Furthermore, appreciation rates in the long-term would be higher by establishing a strong development direction now.

3.2 UMORE PARK MARKET ANALYSIS AND DEVELOPMENT STRATEGY

Demographic Overview of the Region

The seven counties that surround the UMore Park region—Dakota, Hennepin, Anoka, Carver, Scott, Washington and Ramsey Counties—represent a population of nearly 5 million and 53% of Minnesota’s population. UMore Park is in Dakota County, anticipated to be one of the fastest growing counties of the surrounding region.

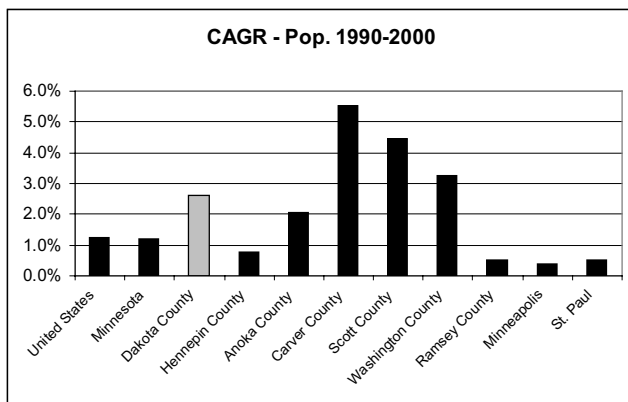
TABLE 1. DEMOGRAPHIC COMPARISON BY STATE, COUNTY AND CITY

<i>Category</i>	<i>United States</i>	<i>Minnesota</i>	<i>Dakota County</i>	<i>Hennepin County</i>
Population, 2000	281,421,906	4,919,479	355,904	1,116,206
CAGR*	1.2%	1.2%	2.6%	0.8%
Population % Ch., 1990-2000	13.1%	12.1%	29.3%	8.1%
%Population 18 Years & Under, 2000	25.7%	26.2%	29.2%	24.0%
%Population 65 Years & Over, 2000	12.4%	12.1%	7.4%	11.0%
Home Ownership Rate, 2000	66.2%	79.5%	78.2%	66.2%
High School Grads (25 & Over), 2000	80.4%	87.9%	93.2%	90.6%
College Grads (25 & Over), 2000	24.4%	27.4%	34.9%	39.1%
<i>Category</i>	<i>Anoka County</i>	<i>Carver County</i>	<i>Scott County</i>	<i>Washington County</i>
Population, 2000	298,084	82,122	89,498	201,130
CAGR*	2.0%	5.5%	4.5%	3.3%
Population % Ch., 1990-2000	22.3%	46.5%	54.7%	37.9%
%Population 18 Years & Under, 2000	28.9%	31.5%	31.2%	29.4%
%Population 65 Years & Over, 2000	7.1%	7.5%	6.2%	7.6%
Home Ownership Rate, 2000	83.4%	83.5%	86.5%	85.7%
High School Grads (25 & Over), 2000	91.0%	91.4%	91.0%	94.0%
College Grads (25 & Over), 2000	21.3%	34.3%	29.4%	33.9%
<i>Category</i>	<i>Ramsey County</i>	<i>Minneapolis</i>	<i>St. Paul</i>	
Population, 2000	511,035	382,618	287,151	
CAGR*	0.5%	0.4%	0.5%	
Population % Ch., 1990-2000	5.20%	3.9%	5.5%	
%Population 18 Years & Under, 2000	25.60%	22.0%	27.1%	
%Population 65 Years & Over, 2000	11.60%	9.1%	10.3%	
Home Ownership Rate, 2000	63.50%	51.4%	54.8%	
High School Grads (25 & Over), 2000	87.60%	85.0%	83.8%	
College Grads (25 & Over), 2000	34.30%	37.4%	32.0%	

* CAGR = Compounded Annual Growth Rate
Source: U.S. Census

Population

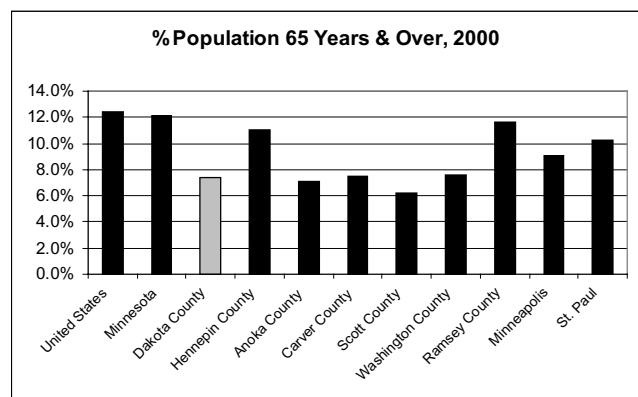
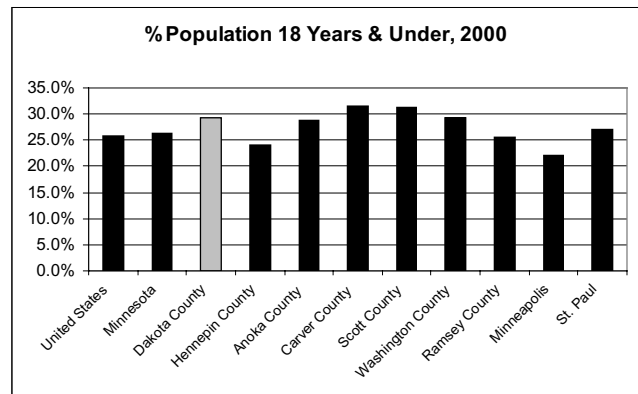
Minnesota's total population grew by about 12.4% since the 1990 Census. The counties whose population grew the most in the market area set relative to the state's annual growth rate of 1.2% were Dakota, Carver, Scott and Washington. Dakota County increased its population by approximately 2.6% annually and Scott, Carver and Washington's annual growth rate ranged between 3.3 to 5.5%. Hennepin and Ramsey counties, on the other hand, experienced slower growth. Ramsey County increased its population by only 0.5% annually and Hennepin about 0.8%.



Source: U.S. Census

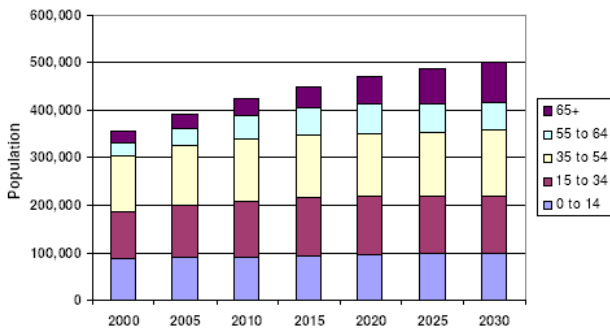
Age

Almost 30% of Minnesota residents are under the age of 18 and 12% are over the age of 65. Carver and Scott Counties have a higher percentage of residents under the age of 18 than average and a lower percentage of residents over the age of 65. Dakota County has not quite 30% of residents under the age of 18 and about 7.5% of residents are over the age of 65.



Source: U.S. Census

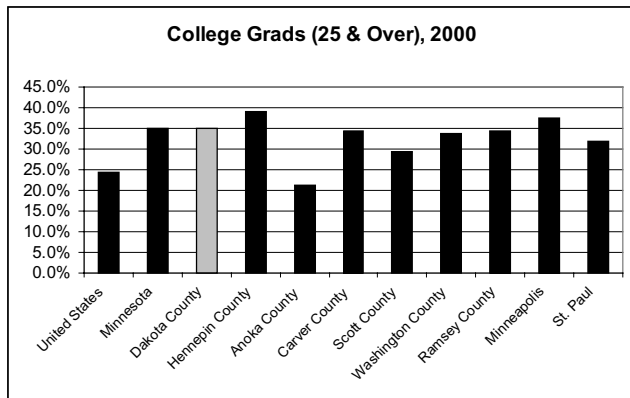
The distribution of population by age is anticipated to change. The following chart indicates that the older age segments are increasing as a percentage of total population for Dakota County, while the youngest population stays about the same.



Source: MN Planning - Dakota County: An Economic and Demographic Assessment

Educational Attainment

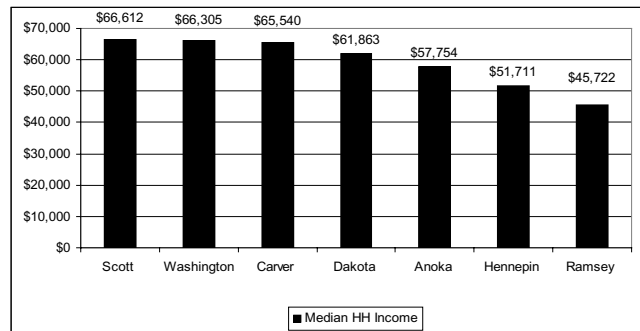
27.4% of the state's residents have a college degree. In the Twin Cities metro area, Hennepin County (39.1%) has the highest percentage of college graduates. Dakota County ranks second (34.9%) and all of the counties, besides Anoka, have rates above the state average.



Source: U.S. Census

Income

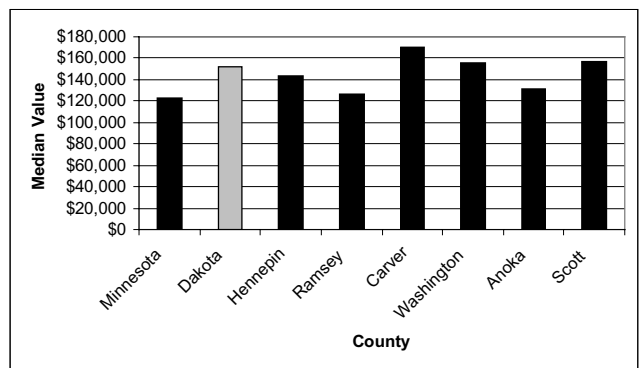
The median household income in the Twin Cities, according to the 1999 Census, was \$54,304. After adjustment for inflation, median household income increased by 14.4% between 1989 and 1999. Dakota County's inflation adjusted income was 12.9% for the same period - Dakota County falls in the middle of the seven-county's 1999 median income breakout as shown in the following chart.



Source: U.S. Census

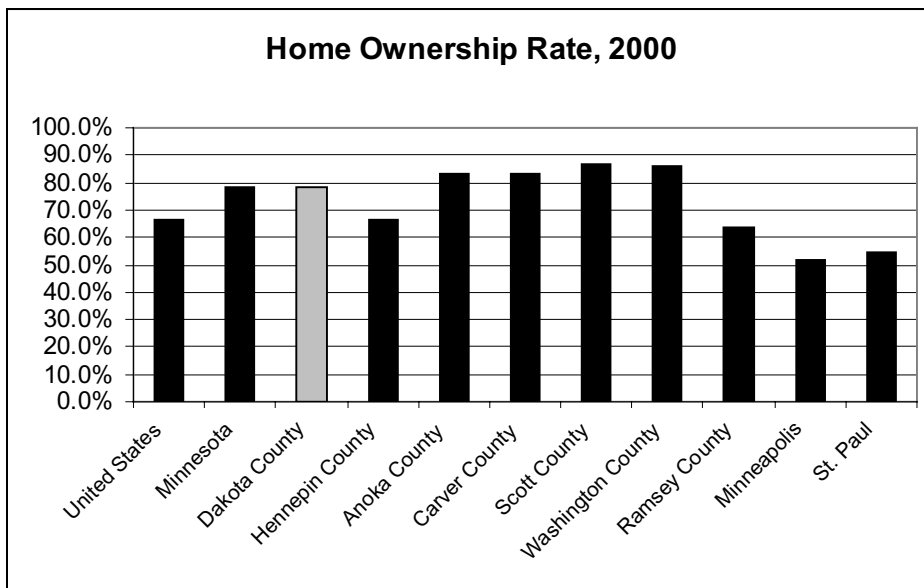
Median Home Value by County

Carver County has the highest median home value, followed by Scott County, Washington County, and Dakota County.



Home Ownership Rates

Minnesota has a home ownership rate of almost 80%, substantially higher than the US rate. Home ownership rates are lower than the state average in the urban areas of Minneapolis and St. Paul and higher in Dakota County. Dakota County's home ownership rate is almost 80%, similar to the state average.



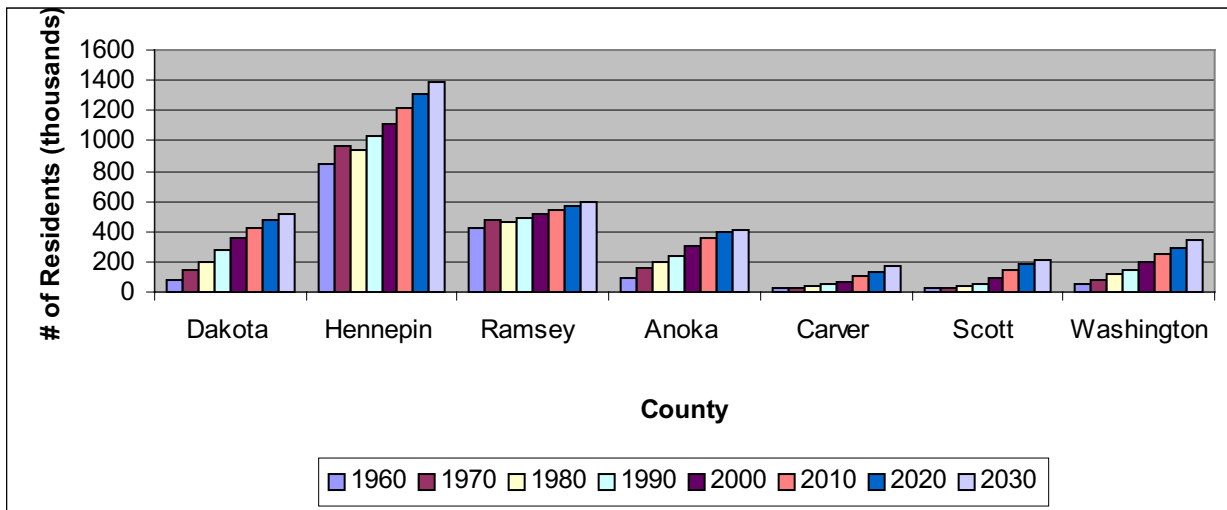
Source: U.S. Census

PROJECTED CHANGES IN DEMOGRAPHICS

The following three tables illustrate the projected and historic trends in population, households and employment. The population graph starts in 1960 and is projected out to 2030. Households begin with 1980 data and are forecasted

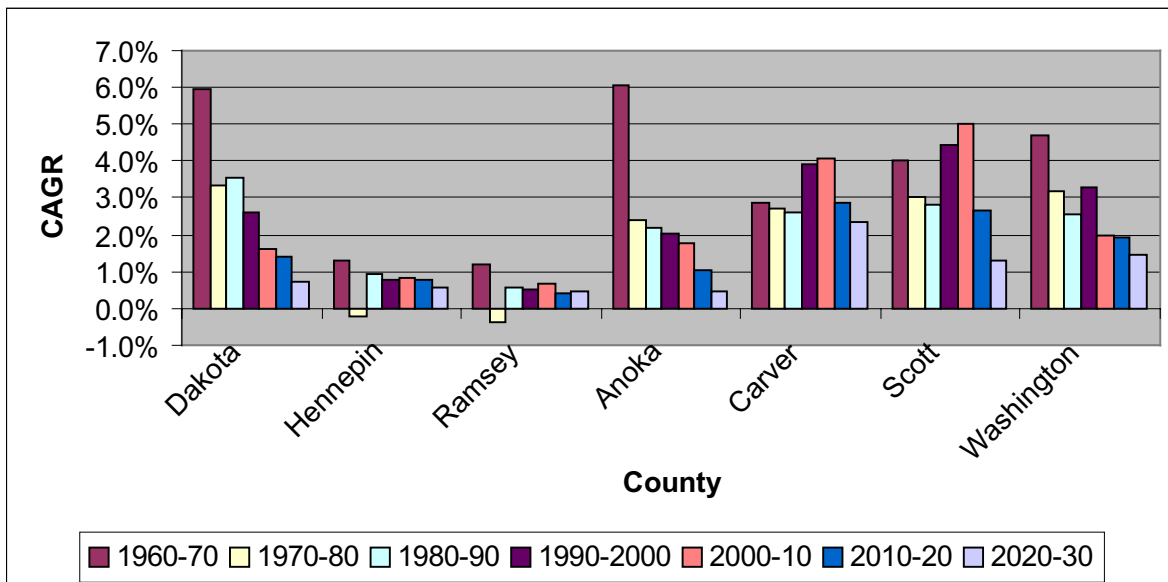
out to 2030. Population projections are an important component in the development models tested for UMore Park because they affect absorption estimates.

PROJECTED POPULATION



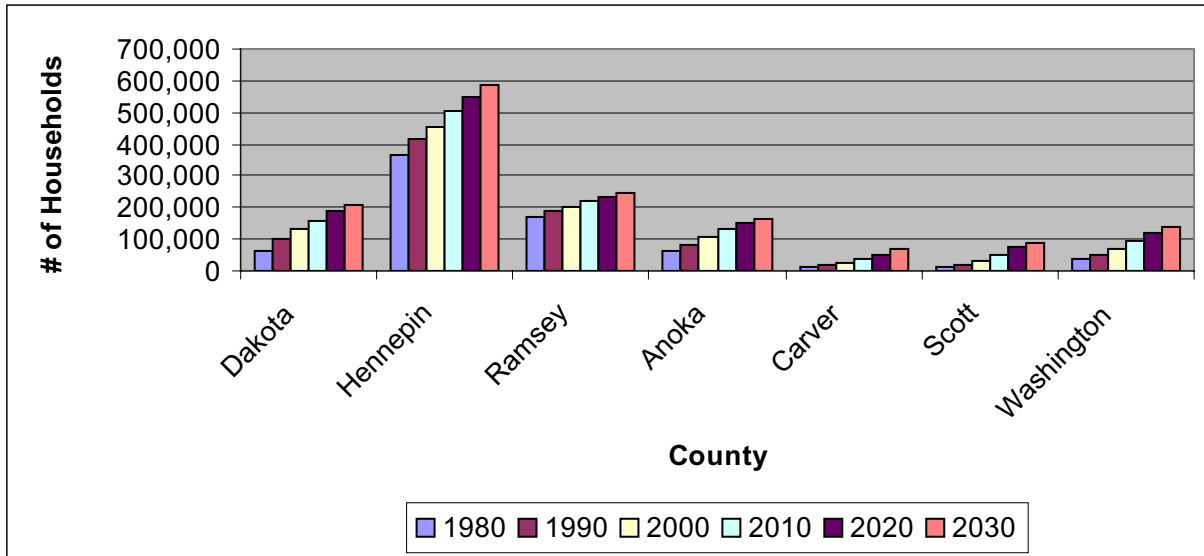
Source: U.S. Census (Historic), Metropolitan Council (Forecast)

COMPOUND ANNUAL GROWTH RATE (CAGR)



Source: U.S. Census (Historic), Metropolitan Council (Forecast)

TOTAL HOUSEHOLDS



Source: U.S. Census (Historic), Metropolitan Council (Projections)

Since 1960 the population of all seven counties has grown steadily, with the exception of Hennepin and Ramsey Counties which had a slight dip in 1980. Projecting from 2000 to 2010, Dakota County is expected to grow by an annual rate of 1.6%.

Projected Households

Households in all seven counties are anticipated to grow from 2000 to 2010 with the strongest growth occurring in Scott County. Dakota County experienced a stronger annual growth rate than the rest of the region from 1980 to 1990, as highlighted by the CAGR chart. However, after 1990 Dakota County levels dropped to the middle range of its surrounding counties. By 2010, Dakota County is projected to see an annual growth rate of 2.0%, with the number of households in Dakota County estimated to break 200,000 by 2030. Carver, Scott and Washington are seeing even stronger growth. Scott is predicted to have the strongest growth rate of all seven counties in region, with an average annual growth rate to 2030 of about 3.5%.¹

The average household size in Dakota County is estimated to decline from about 3 persons per household to 2.5 persons per household. In fact, all seven counties are anticipated to see a reduction in household size. This will have implications for the type of housing made available to the market in the future.

1. Source: U.S. Census (Historic), Metropolitan Council (Projections)

EMPLOYMENT ANALYSIS

Prospects for employment growth in Dakota County and the Rosemount area will be influenced by factors such as the aging work force and location of UMore Park relative to other municipal employment centers, including Eagan, Apple Valley, Burnsville and Inver Grove Heights, that are more proximate to major transportation systems.

The following table shows changes in employment for select jurisdictions. Notice that Dakota County shows a percentage growth from 2000 to 2004 second only to Scott County, which is considerably smaller.

Dakota County shows a substantially higher compound annual growth rate (CAGR) than either the MSA or the state. Between 2000 and 2030, Minnesota employment is projected to grow by 26%, the Twin Cities employment base by 36% and Dakota County employment by 44%. In 2000, Dakota County had a larger percentage of residents

under 18 years of age than over 65 compared to the MSA and state. This should help to meet the demand for qualified employees resulting from projected rapid employment growth. Dakota County has about 9% of the Twin Cities MSA employment and is anticipated to see about 11% of Twin Cities employment growth over the next thirty years. It is estimated that Dakota County's net employment will increase to 68,000 employees over the next thirty years, while the Twin Cities MSA's² employment growth is projected to grow to 629,000 employees.

The table below illustrates employment trends for the ten largest cities in Dakota County from 2000 to 2004. Only Farmington employs less people than Rosemount, but Rosemount shows modest growth in employment relative to other highlighted jurisdictions. The cities with the largest employee base are Eagan, Burnsville and Apple Valley due to their proximity to major interstates including I-35 and I-494. Rosemount is located farther from these interstates, closer to Highway 52.

TABLE 2. TOTAL EMPLOYMENT CHANGE

<i>Jurisdiction</i>	<i>2000</i>	<i>2004</i>	<i>Change ('00-'04)</i>	<i>% Change</i>
USA	137,614,000	140,133,000	2,519,000	2%
Minneapolis	308,127	286,235	-21,892	-7%
Dakota County	154,242	169,525	15,283	10%
Hennepin County	877,693	825,858	-51,835	-6%
Ramsey County	334,207	327,837	-6,370	-2%
Anoka County	110,091	113,449	3,358	3%
Carver County	29,055	31,476	2,421	8%
Scott County	34,980	40,858	5,878	17%
Washington County	67,649	72,442	4,793	7%
Rosemount	6,356	6,866	510	8%

Source: US Census, Metropolitan Council, Bureau of Labor Statistics

TABLE 3. EMPLOYMENT PROJECTION

<i>Jurisdiction</i>	<i>2000</i>	<i>2030</i>	<i>CAGR</i>	<i>Total Percent Change</i>
Minnesota	2,684,900	3,382,974	0.77%	26%
Twin Cities MSA	1,748,000	2,377,280	1.03%	36%
Dakota County	154,242	222,108	1.22%	44%

Source: Minneapolis Dept. of Employment and Economic Development

2. The Twin Cities MSA refers to the Minneapolis-St. Paul-Bloomington MSA.

In 2003, nearly 40% of Dakota County employees worked in retail, manufacturing or transportation and warehousing. The number of employees in transportation and warehousing nearly doubled from 2000 to 2003. Other notable employment gains were accrued in management of companies and enterprises (+ 26%) and utilities (+ 16%).

TABLE 4. DAKOTA COUNTY EMPLOYMENT BY CITY

<i>Jurisdiction</i>	<i>2000</i>	<i>2004</i>	<i>Change ('00-'04)</i>	<i>% Change</i>
Eagan	42,750	48,804	6,054	14%
Burnsville	31,765	32,387	622	2%
Apple Valley	12,106	13,931	1,825	15%
Lakeville	10,966	12,941	1,975	18%
Inver Grove Heights	7,468	9,665	2,197	29%
South St. Paul	7,697	7,764	67	1%
West St. Paul	8,905	8,417	-488	-5%
Hastings	8,872	9,167	295	3%
Rosemount	6,356	6,866	510	8%
Farmington	3,986	4,535	549	14%

Source: Minneapolis Dept. of Employment and Economic Development

TABLE 5. DAKOTA COUNTY EMPLOYMENT BY INDUSTRY

<i>Industry</i>	<i>2000</i>	<i>2000 % of Workers</i>	<i>2003</i>	<i>2003 % of Workers</i>	<i>Change ('00-'03)</i>	<i>% Change</i>
Mining	103	0.1%	106	0.0%	3	3%
Utilities	311	0.2%	360	0.1%	49	16%
Construction	10,980	7.2%	9,413	2.6%	-1,567	-14%
Manufacturing	18,061	11.8%	17,861	4.9%	-200	-1%
Wholesale Trade	11,129	7.3%	11,404	3.2%	275	2%
Retail Trade	21,874	14.3%	23,109	64.0%	1,235	6%
Transportation & Warehousing	9,341	6.1%	18,081	5.0%	8,740	94%
Information	9,707	6.4%	7,904	2.2%	-1,803	-19%
Finance & Insurance	9,429	6.2%	7,233	2.0%	-2,196	-23%
Real Estate, Rental & Leasing	2,236	1.5%	1,744	0.5%	-492	-22%
Professional, Scientific & Technical services	6,798	4.4%	6,188	1.7%	-610	-9%
Management of Companies & Enterprises	3,762	2.5%	4,726	1.3%	964	26%
Admin, Support & Waste Mgt Services	7,240	4.7%	6,919	1.9%	-321	-4%
Educational Services	1,890	1.2%	1,443	0.4%	-447	-24%
Health Care & Social Assistance	16,155	10.6%	12,252	3.4%	-3,903	-24%
Arts, Entertainment & Recreation	2,782	1.8%	2,948	0.8%	166	6%
Accommodation & Food Services	13,243	8.7%	12,947	3.6%	-296	-2%
Other Services	7,807	5.1%	8,352	2.3%	545	7%

Source: US Census

The following table lists the largest employers in Dakota County in 2005. These companies have a significant number of workers and are potential target markets for a residential community at UMore Park.

In 2000, Hennepin and Ramsey counties were net importers of labor, containing more jobs than residents. Approximately 59% of people working in Dakota County reside in the County, while roughly 41% come from outside of the county (largely from within the seven-county metropolitan area).

The majority of employees who reside in Dakota County commute between 15 and 29 minutes to reach their place of work. The average commute for Dakota County is 22.8 minutes and for the MSA it is 23.6 minutes. These are important statistics to reference when identifying the extent to which UMore Park may be able to attract residents in relation to their places of work.³

TABLE 6. LARGEST EMPLOYERS IN DAKOTA COUNTY, 2005

<i>Corporation</i>	<i>Employees</i>	<i>City</i>
Thompson West	7,000	Eagan
Blue Cross / Blue Shield	3,000	Eagan
Lockheed Martin	1,750	Eagan
United Parcel Service	1,435	Eagan
Goodrich Sensor Systems	1,150	Burnsville
Northwest Airlines	1,100	Eagan
CHS Inc.	1,000	Inver Grove Heights
Cray Inc.	900	Eagan
Fairview Ridges Hospital	880	Burnsville
Flint Hills Resources	850	Rosemount
Smead Manufacturing Co.	625	Hastings

Source: Krumrie, Matt. "Who's doing business in diverse combo of cities", Upsize Mag., Nov. 2005

TABLE 7. PLACE OF RESIDENCE FOR DAKOTA COUNTY EMPLOYEES

	<i>Place of Residence</i>	<i># of Dakota County's 2030 Employees</i>
Dakota County	58.7%	130,378
Hennepin	11.3%	25,098
Ramsey	9.2%	20,434
Washington	5.4%	11,994
MN (not Metro)	5.3%	11,772
Scott	5.2%	11,550
Outside MN	2.8%	6,219
Anoka	1.7%	3,776
Carver	0.5%	1,111

Source: US Census, Metro Council

TABLE 8. PLACE OF WORK FOR DAKOTA COUNTY RESIDENTS

	<i>Place of Work</i>
Dakota County	45.8%
Hennepin	31.8%
Ramsey	14.2%
Washington	1.9%
MN (not Metro)	2.0%
Scott	2.3%
Outside MN	0.9%
Anoka	0.6%
Carver	0.5%

Source: US Census

³ Dakota Future

RESIDENTIAL MARKET

Changes in household demographics are used to characterize demand projections for development at UMore Park. UMore Park can capture market niches that reflect the fact that the population is growing older, there is an increase in non-family households and household size is decreasing.

According to the Metropolitan Council, during the 1990s the Twin Cities region grew by roughly 350,000 people, which was the largest population increase in Twin City history. The total number of households increased by 146,000, which outpaced housing construction. This resulted in lower vacancies that placed upward pressure on rents and purchase prices. Today, the region has one of the highest home ownership rates among all US metro areas. In the 1990s the cost of buying a home increased by 7% (adjusted for inflation) and the cost of renting increased by 3.4%. Median household incomes increased by 14% for

homeowners and by 9.8% for renters. Ultimately, the Twin Cities region has had a relatively strong housing market.

Household Change and Household Size

Rosemount's Compounded Annual Growth Rate (CAGR) of 5.5% for households during the decade of the 1990s is significantly above the national, state, MSA and neighboring municipalities' growth rates. During this time Rosemount's households increased from 0.29% to 0.42% of the total MSA. This trend suggests that the Rosemount area is becoming more recognized in the market as a place to live.

The growth and emergence of non-family households is a key driver of housing demand. For the Twin Cities MSA, non-family households increased from 32% to 35%. For Rosemount, the increase was from 15% to 17%. Nationally, non-family households increased from 29% to 31% of total households.

TABLE 9. HOUSEHOLD CHANGE FACTORS

<i>Jurisdiction</i>	<i>1990</i>	<i>2000</i>	<i>CAGR</i>	<i>Annual Change</i>
USA	91,947,410	105,480,101	1.4%	1,353,269
Minnesota	1,647,853	1,895,127	1.4%	24,727
Twin Cities MSA	935,516	1,136,615	2.0%	20,110
Dakota County	98,293	131,151	2.9%	3,286
Rosemount	2,779	4,742	5.5%	196
Burnsville	19,127	23,687	2.2%	456
Apple Valley	11,145	16,344	3.9%	520

Source: US Census and ERA

TABLE 10. NON-FAMILY % OF TOTAL HOUSEHOLDS

<i>Jurisdiction</i>	<i>1990</i>	<i>2000</i>
USA	29%	32%
Minnesota	31%	34%
Twin Cities MSA	32%	35%
Dakota County	25%	28%
Rosemount	15%	17%
Burnsville	28%	34%
Apple Valley	16%	24%

Source: US Census

Non-family households are increasing in all Twin Cities metro-area counties – non-family households are anticipated to be almost 35% of all households in Dakota County by 2030. This is an opportunity market for UMore Park.

Growth in non-family housing is also decreasing the average household size. This is noteworthy because smaller households will have different housing needs.

Rosemount experienced a notable increase in some of the older age cohorts from 1990 to 2000. For example, from 1990 to 2000, the number of households with a householder aged 45 to 54 years or older increased from 13% to 20%.

TABLE 11. AVERAGE HOUSEHOLD SIZE

<i>Jurisdiction</i>	<i>1990</i>	<i>2000</i>	<i>CAGR</i>
USA	2.63	2.59	-0.2%
Minnesota	2.58	2.52	-0.2%
Twin Cities MSA	2.58	2.56	-0.1%
Dakota County	2.78	2.7	-0.3%
Rosemount	3.1	3.08	-0.1%
Burnsville	2.67	2.53	-0.5%
Apple Valley	3.09	2.77	-1.1%

Source: US Census and ERA

TABLE 12. HOUSEHOLDS BY AGE OF HOUSEHOLDER, 1990 VS. 2000

	<i>Age Cohort</i>	<i>United States</i>	<i>Minnesota</i>	<i>Dakota County</i>	<i>Apple Valley</i>	<i>Burnsville</i>	<i>Rosemount</i>	<i>Twin Cities MSA</i>
1990	15 to 24 years	5%	6%	5%	3%	7%	5%	6%
	25 to 34 years	22%	24%	30%	29%	32%	33%	27%
	35 to 44 years	22%	23%	27%	36%	26%	30%	25%
	45 to 54 years	16%	15%	16%	22%	19%	13%	15%
	55 to 64 years	13%	12%	10%	7%	10%	11%	11%
	65 to 74 years	13%	11%	7%	2%	5%	5%	9%
	75 years +	9%	10%	4%	1%	1%	3%	7%
2000	15 to 24 years	5%	6 %	5%	3%	8%	2%	5%
	25 to 34 years	17%	18%	20%	19%	22%	22%	20%
	35 to 44 years	23%	24%	29%	29%	25%	35%	26%
	45 to 54 years	20%	20%	22%	26%	21%	20%	21%
	55 to 64 years	14%	13%	12%	14%	13%	10%	12%
	65 to 74 years	11%	10%	7%	6%	7%	7%	8%
	75 years +	10%	10%	6%	4%	4%	4%	8%

Source: US Census

Retirements of the Baby Boomer generation and growth in non-family households will contribute to decreases in average household size in the next decade. Growth of demand in these submarkets could considerably alter area-housing markets, and generate demand for housing options such as higher density townhomes, bungalows, row houses, and other similar products (either owned or for rent).

Housing Units

The number of housing units in Rosemount grew at a 5.4% CAGR during the decade of 1990 to 2000. In 1990, Rosemount represented 3% of total units in Dakota County and in 2000 the City represented 4%. In 1990, Dakota County represented 10% of total units in the metro area and in 2000 the County represented 11%.

TABLE 13. HOUSING UNITS

<i>Jurisdiction</i>	<i>1990</i>	<i>2000</i>	<i>CAGR</i>	<i>% Increase in HH</i>
USA	102,263,678	115,904,641	1.3%	1.4%
Minnesota	1,848,445	2,065,946	1.1%	1.4%
Twin Cities MSA	988,735	1,169,775	1.7%	2.0%
Dakota County	102,707	133,750	2.7%	2.9%
Rosemount	2,866	4,845	5.4%	5.5%
Burnsville	20,244	24,261	1.8%	2.2%
Apple Valley	11,538	16,536	9.4%	3.9%

Source: US Census and ERA

Housing Occupancy

Between 1990 and 2000, the share of owner-occupied units increased from 81% to 88% in Rosemount, the highest rate among comparable jurisdictions. Home ownership in this region is much higher than the national average.

TABLE 14. OWNER OCCUPANCY %

<i>Jurisdiction</i>	<i>1990</i>	<i>2000</i>
USA	64%	66%
Minnesota	72%	75%
Twin Cities MSA	69%	72%
Dakota County	74%	78%
Rosemount	81%	88%
Burnsville	65%	68%
Apple Valley	87%	88%

Source: US Census

TABLE 15. RENT BY NUMBER OF BEDROOMS, 2000

<i>Rent</i>	<i>1 Bedroom</i>	<i>2 Bedroom</i>	<i>3 + Bedroom</i>
Less than \$200	10,348	2,330	785
\$200-\$299	5,848	2,070	974
\$300-\$499	21,756	8,005	3,386
\$500-\$749	63,094	41,039	6,280
\$750-\$999	18,436	34,150	9,268
\$1,000 +	5,576	13,347	10,841
Total	125,058	100,941	31,534

Source: Metropolitan Council

Table 15 shows a distribution of market rents by number of bedrooms for the year 2000. Most one and two bedroom apartments rent for \$500 to \$749 a month while the majority of three bedroom apartments rent for \$1,000 or more per month. Almost half of rental units in the market are one-bedroom units.

Housing Unit Construction

Rosemount experienced an increase in single-family home construction from 2000 to 2004. Construction ranged from 10 to 97 units per year, which was higher, as a percentage, than building activity in other jurisdictions analyzed for this report. .

TABLE 16. SINGLE-FAMILY CONSTRUCTION

<i>Jurisdiction</i>	<i>2000</i>	<i>2001</i>	<i>2002</i>	<i>2003</i>	<i>2004</i>
USA	1,198,100	1,235,600	1,332,600	1,460,900	1,569,400
Minnesota	25,549	26,927	28,631	32,731	32,580
Twin Cities MSA	16,740	17,136	17,579	20,378	20,212
Dakota County	2,383	2,274	2,278	2,722	2,189
Rosemount	285	295	238	335	411
Burnsville	118	128	120	64	58
Apple Valley	184	226	184	231	147

Source: US Census and ERA

TABLE 17. MULTI-FAMILY CONSTRUCTION

<i>Jurisdiction</i>	<i>2000</i>	<i>2001</i>	<i>2002</i>	<i>2003</i>	<i>2004</i>
USA	394,200	401,126	415,058	428,327	455,617
Minnesota	7,265	7,224	10,346	9,315	9,263
Twin Cities MSA	5,566	5,843	8,172	7,245	7,502
Dakota County	783	897	1,313	1,464	1,372
Rosemount	0	0	92	105	140
Burnsville	41	0	135	136	169
Apple Valley	451	376	250	296	194

Source: US Census and ERA

TABLE 18. SINGLE-FAMILY CONSTRUCTION AS % OF TOTAL CONSTRUCTION

<i>Jurisdiction</i>	<i>2000</i>	<i>2001</i>	<i>2002</i>	<i>2003</i>	<i>2004</i>
USA	75%	75%	76%	77%	78%
Minnesota	78%	79%	73%	78%	78%
Twin Cities MSA	75%	75%	68%	74%	73%
Dakota County	75%	72%	63%	65%	61%
Rosemount	100%	100%	72%	76%	75%
Burnsville	74%	100%	47%	32%	26%
Apple Valley	29%	38%	42%	44%	43%

Source: US Census

Dakota County was one of only two counties that built fewer single-family units in 2004 than in 2000. Most counties show a steadily increasing supply of single-family units during the four-year period. In 2004, single-family construction in Dakota County represented about 11% of total MSA single-family building activity. Trends in multi-family construction are not as clear. Select counties, including Dakota, experienced relatively steady increases in new units where as other counties experienced significant year-to-year fluctuations in construction activity. In 2004, Dakota County accounted for about 18% of total MSA multi-family construction.⁴

TABLE 19. DAKOTA COUNTY CONSTRUCTION AS % OF TWIN CITIES MSA

<i>Unit Type</i>	<i>2000</i>	<i>2001</i>	<i>2002</i>	<i>2003</i>	<i>2004</i>
Single-family	14%	13%	13%	13%	11%
Multi-family	14%	15%	16%	20%	18%

Source: US Census

TABLE 20. DAKOTA COUNTY SINGLE-FAMILY CONSTRUCTION BY CITY

<i>Jurisdiction</i>	<i>2000</i>	<i>2001</i>	<i>2002</i>	<i>2003</i>	<i>2004</i>
Eagan	259	216	243	184	147
Burnsville	118	128	120	64	58
Apple Valley	184	226	184	231	147
Lakeville	592	513	472	687	541
Inver Grove Heights	204	159	115	198	217
South St. Paul	25	29	25	42	35
West St. Paul	163	12	10	11	14
Hastings	115	111	151	257	213
Rosemount	285	295	238	335	411
Farmington	302	362	566	542	228

Source: US Census

4. Source: US Census and ERA

Rosemount shows relatively steady growth in construction across the four year period in contrast with other cities. In 2004, Rosemount accommodated roughly 20% of County-wide single-family construction. From 2000 to 2004, select cities, including Rosemount, had a drastic increase in multi-family housing construction. Inver Grove Heights went from four units in 2000 to 429 in 2004. Eagan, Burnsville, Hastings and Rosemount all show impressive growth during the same period. Rosemount is one of three cities that show a higher level of single-family construction in 2004 when compared to 2000. Metro-wide, Rosemount was ranked 6th of cities for single-family housing permits in 2004. Rosemount ranked 10th for total permits issued among metro cities in the same year, and ranked 9th for new affordable housing owner-occupied units.⁵

TABLE 21. DAKOTA COUNTY MULTI-FAMILY CONSTRUCTION BY CITY

<i>Jurisdiction</i>	<i>2000</i>	<i>2001</i>	<i>2002</i>	<i>2003</i>	<i>2004</i>
Eagan	73	19	114	207	0
Burnsville	41	0	135	136	169
Apple Valley	451	376	250	296	194
Lakeville	21	20	214	93	378
Inver Grove Heights	4	159	273	429	307
South St. Paul	2	0	20	0	35
West St. Paul	97	0	0	0	0
Hastings	20	197	195	129	133
Rosemount	0	0	92	105	140
Farmington	50	122	0	0	0

Source: US Census

TABLE 22. ROSEMOUNT CONSTRUCTION AS % OF DAKOTA COUNTY

<i>Unit Type</i>	<i>2000</i>	<i>2001</i>	<i>2002</i>	<i>2003</i>	<i>2004</i>
Single-family	13%	14%	11%	13%	20%
Multi-family	0%	0%	7%	8%	10%

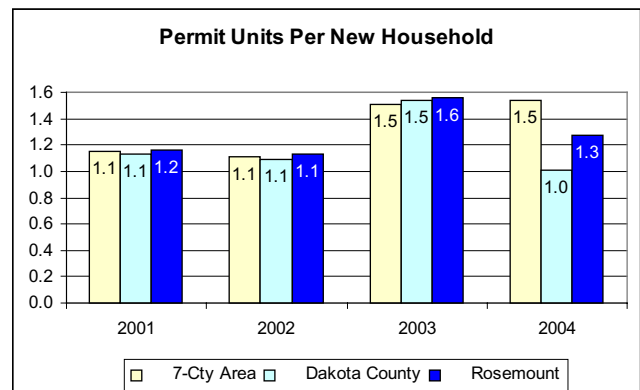
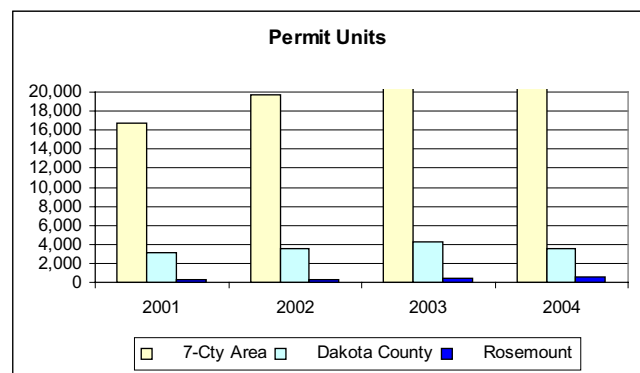
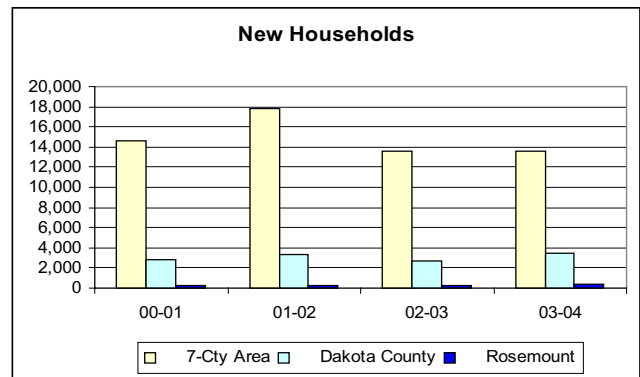
Source: US Census

5. Report to the Minnesota Legislature on Affordable and Life-Cycle Housing In the Twin Cities Metropolitan Area, 2004. December 2005

Implications

Growth prospects for residential development in the area will be influenced by several key factors:

- Future construction will be driven largely by Federal Reserve policy decisions.
- Studies suggest that the Baby Boomer generation will favor smaller homes on smaller lots, located in more walkable environments. This represents a core opportunity market.
- The maturing Generation-X market (roughly defined as people born in the 1960s up to about 1980) does not appear to favor traditional suburban single-family housing.
- Experts who have evaluated expected future household growth see a larger share of future demand driven by non-family households, which should have an impact on housing construction trends.
- The Metropolitan Council predicts that from 2000 to 2030, there will be 460,000 new households. To accompany this increase in households, the Council estimates that the Twin Cities region must add about 520,000 new housing units by 2030. The assumptions used to derive this estimate lead to a very conservative number.⁶



6. In making this housing demand estimate, the Council assumed that the market would maintain a 3% vacancy and replace inadequate housing. 3% is, by development standards, a very low vacancy level to achieve an affordable, adequate (from a market perspective) housing supply).

The following tables show the increase in new households as well as increase in building permits over the last few years.

Taking the two together yields an estimated building permits per new households. Note that building permits per new household in the 1980s and 1990s for the metro area were 1.2 and 1.0, respectively.

To estimate demand for new units, the Sasaki Team analyzed ratios of building permits to projected new households over the next few decades. Note that this analysis considered a seven-county metro area⁷, Dakota County and Rosemount, as well as a three-county area that includes Dakota, Washington, and Scott Counties.

Using this methodology, the Sasaki Team estimated absorption of units at UMore Park. Please see the Model Assumptions section for descriptions of this methodology.

TABLE 23. NEW HOUSEHOLDS

<i>New households</i>	<i>2004 to 2010</i>	<i>2010 to 2020</i>	<i>2020 to 2030</i>
7-Cty Area	121,516	167,445	126,623
Dakota County	17,166	29,650	18,210
Rosemount	1,996	3,200	2,300
3-Cty Area	51,203	74,505	54,273

TABLE 24. NEW POPULATION

<i>New Population</i>	<i>2004 to 2010</i>	<i>2010 to 2020</i>	<i>2020 to 2030</i>
7-Cty Area	285,070	374,000	262,500
Dakota County	38,884	58,190	36,860
Rosemount	4,960	7,400	5,600
3-Cty Area	115,168	161,791	114,157

TABLE 25. UNITS: ANNUAL PROJECTIONS

<i>Total Building Permit (Units)</i>	<i>2005 to 2010</i>	<i>2010 to 2020</i>	<i>2020 to 2030</i>
7-Cty Area	22,280	23,110	17,600
Dakota Cty	3,710	4,010	2,480
Rosemount	400	450	290
3-Cty Area	9,390	9,170	6,780

7. Counties include those under Metropolitan Council boundaries: Dakota, Hennepin, Ramsey, Anoka, Carver, Scott, and Washington Counties

OFFICE MARKET

The Minneapolis-St. Paul metropolitan office market has almost 66 million square feet of rentable area. Class A offices dominate the Minneapolis central business district while suburban markets have Class A and B space.

The office market in the Twin Cities metro region continues to be soft. 2005 was the first year with positive office absorption rates since 2000. The 10 million square feet of leasable space on the market represent seven years of supply at 2005 absorption levels. This is not good news for landlords or developers, who can expect to wait years before rents start going up or before there is any substantial increase in demand for new multi-tenant commercial office space.

Despite a stagnant market, the slightly positive absorption rates in 2005 could signal returning demand. However, there has been no major new construction in years. Recent declines in supply could be due to conversion from office to residential or conversion to single tenant space (owner-occupied), especially in the St. Paul central business district, as well as redevelopment and demolition of older buildings and sites for other uses.

Overall, the UMore Park location is not competitive with other speculative office sites. Opportunities for the site are probably limited to community-based offices (i.e. medical, accounting, insurance). Build-to-suit lots will require heavy recruitment to the site. Greater opportunities may exist for office research space, which fits well with existing activities at the site, or offices which offer services for residents or the University. A master planned development has greater potential to attract businesses and employees as residents.

Office Classes

Typically, office space within markets is broken down into three separate classes, Class A, Class B, and Class C office space:

Class A – A classification used to describe buildings that generally qualify as extremely desirable, investment-grade properties and command the highest rents or sale prices compared to other buildings in the same market. Such buildings are well-located and provide efficient tenant layouts as well as high quality and/or one-of-a-kind floor plans. They can be architectural or historical landmarks designed by prominent architects. These buildings contain modern mechanical systems and have above-average maintenance and management as well as the best quality materials and workmanship in their trim and interior fittings. They are generally the most attractive and eagerly sought by investors willing to pay a premium for quality.

Class B – A classification used to describe buildings that generally qualify as a more speculative investment, and as such, command lower rents or sale prices compared to Class A properties. Such buildings offer utilitarian space without special attractions. The new or fairly new buildings have ordinary design while older non-landmark buildings have good to excellent design. These buildings typically have average to good maintenance, management and tenants. They are less appealing to tenants than Class A properties and their floor plans, condition and facilities may be deficient. They lack prestige and must depend on a lower price to attract tenants and investors.

Class C – A classification used to describe buildings that generally qualify as no-frills, older buildings that offer basic space and command lower rents or sale prices compared to other buildings in the same market. Such buildings typically have below-average maintenance and management, and could have mixed or low tenant prestige, inferior elevators, and/or mechanical and electrical systems. These buildings lack prestige and must depend on a lower price to attract tenants and investors.

Office Submarkets

The market for commercial office space in the greater Minneapolis-St. Paul Metropolitan Area can be broken down into eight separate submarket areas:

- 494 Corridor
- 394 Corridor
- Northwest
- Suburban St. Paul
- BEA – Burnsville / Eagan / Apple Valley
- Midway
- St. Paul Central Business District (CBD)
- Minneapolis Central Business District (CBD)

MINNEAPOLIS/ST. PAUL OFFICE SUBMARKETS



Source: CB Richard Ellis - Minneapolis

There were positive signs in all individual market regions for 2005, however, the large amount of vacant space already on the market will continue to hinder new construction for some time regardless of location or improvements in vacancy rates.

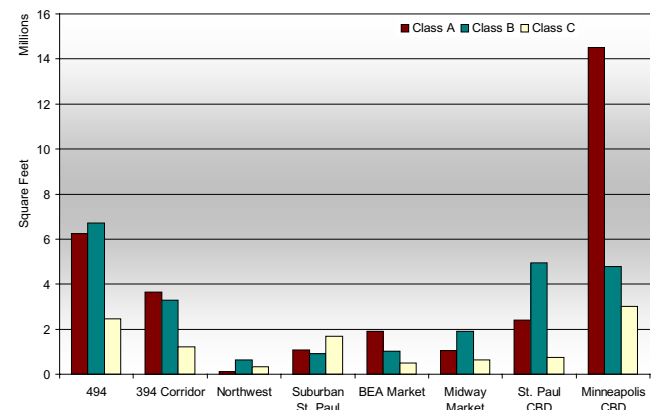
Suburban Office Market

The suburban office market in the Minneapolis-St. Paul area is made up of six of the eight submarket areas: the 494 and 394 Corridor, Northwest, Midway and Burnsville/Eagan/Apple Valley (BEA) Markets. Traditionally split between Class A and B office space, the suburban market did not fare any better than the market as a whole from 2000 to 2005. Rising vacancy rates, stagnated demand and falling supply have been endemic since 2000. The suburban office market accounts for over 35 million square feet, or 54%, of the net 66 million rentable square feet in the market.

Office Supply

There has been no significant construction in the Minneapolis-St. Paul office market since 2000 and the market has actually decreased in net rentable space since. Lacking demand, low interest rates and a strong condominium market have made conversion of office space into condominiums an attractive alternative. The conversion of some multi-tenant sublease space to single-tenant, owner-occupied space also has contributed to the declining supply in the office market. With rising interest rates and a softening market, the rate of condominium conversions has slowed since 2004.

NET RENTABLE OFFICE SPACE



Source: CB Richard Ellis - Minneapolis

Office Submarkets

At over 14-million square feet, Class A office space dominates the 22-million square feet of leasable office space in the Minneapolis CBD and makes up almost half of the A-class space in the entire market. The 494 Corridor has the largest percentage of Class B office space with a similar amount of Class A space, a similarity that holds true for most of the suburban submarket. The suburban St. Paul Market is the only submarket where C-class office space makes up a larger percentage than either the A or B classes and interestingly enough, the St. Paul CBD has a far greater percentage of Class B space than it does Class A. It is also the only submarket to demonstrate an overall net loss in rentable office space since 2000.

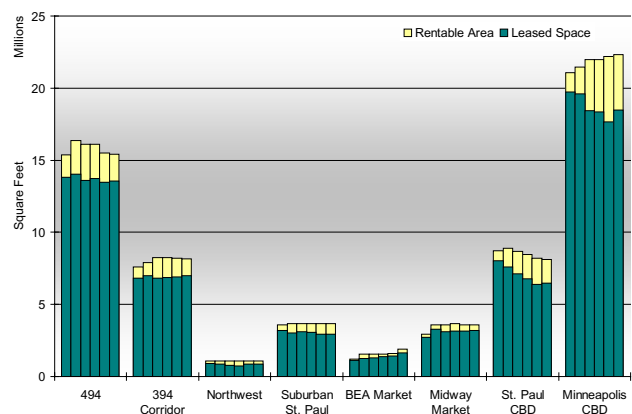
Suburban Office Growth

The suburban office market, consisting of the 494 Corridor, 394 Corridor, Suburban St. Paul, and Northwest, BEA and Midway Markets comprises just over half of the office space for the entire metro market, with the 494 and 394 Corridors making up the bulk of the suburban market. Growth in net leaseable area for suburban markets, like the rest of the Minneapolis-St. Paul Metro Area, has stagnated since 2000 and even declined in some areas. In the suburban markets, Class B has traditionally made up a slightly higher percentage than Class A, except for the Suburban St. Paul and BEA, where Class C and Class A have the most square feet of rentable space respectively. While the actual decline in total space has been marginal, Class C has declined the most. Reasons for the decline include the conversion of office space from multi-tenant to single tenant space and the demolition of C-class buildings. The decline in net rentable area in the suburban areas has not been as significant as in the Minneapolis and St. Paul business districts where there has been a strong trend to turn office space into condominiums.

Office Vacancy and Absorption

Vacancy rates have soared in recent years, from just over 6% in the Minneapolis CBD in 2000 to over 17% by 2005. The aggregate market has seen a net increase of only 44,000 square feet in leased office space since 2000. 2005 did show positive absorption across every submarket, with over 800,000 square feet absorbed in the Minneapolis CBD market. However, this was a minor gain after years of negative absorption numbers. While the total amount of leasable space in the market has actually declined since 2000, the amount of vacant space has risen over 5 million square feet to over 10 million square feet, over 3.5 million of which is in suburban markets.

NET RENTABLE OFFICE SPACE

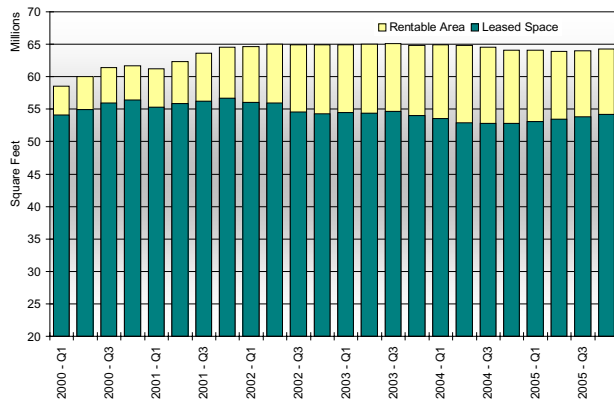


Source: CB Richard Ellis - Minneapolis

Office Submarkets

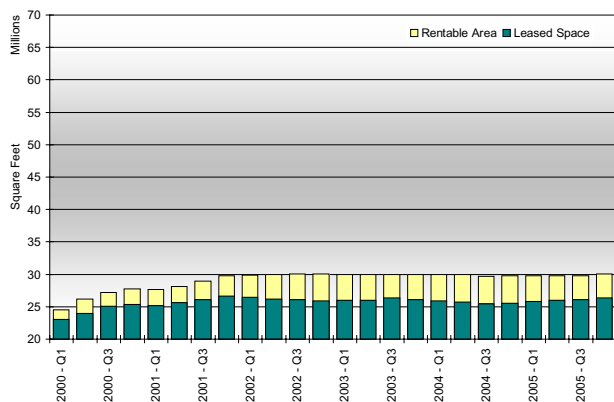
Vacancy rates have risen in every market from near 6% in 2000 for the Minneapolis CBD, to nearly 20% for the St. Paul CBD in 2005. In most markets this rising vacancy has not resulted from significant changes in rented space but from a general stagnation in absorption. Both the central business districts of St. Paul and Minneapolis have a combined negative absorption of over 1.5 million square feet. The only two markets, in fact, that have had net gains in absorption since 2000 are the BEA (Burnsville / Eagan / Apple Valley) and Midway Markets. However, like the other markets they have experienced climbing vacancy rates.

OFFICE MARKET – SUPPLY VS. DEMAND



Source: CB Richard Ellis - Minneapolis

CLASS A SPACE – SUPPLY VS. DEMAND



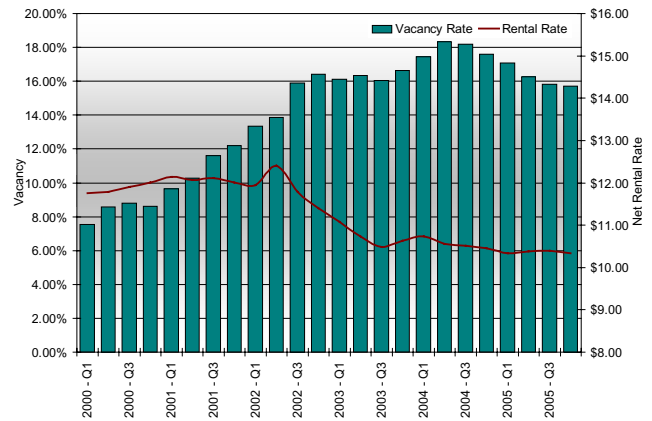
Source: CB Richard Ellis - Minneapolis

Class A office space has followed the same general trend. However, while the overall vacant office space in the market has declined at a cumulative annual rate of just under 1%, the exact opposite is true for Class A office space. Available A-Class office space is two times that demanded.

Office Market Rents

Available data shows that as vacancy rates have steadily increased over the past five years and that net asking rental rates have slipped. Average net rents have fallen almost two dollars per square foot since 2000 to just under \$10.40. While average rents have dropped significantly, they have done nothing to alleviate the stark increase in vacancies from 2000 to 2003. Vacancy rates reached a peak near the beginning of 2004 and have since declined slightly.

OFFICE MARKET – VACANCY VS. RENTAL RATE

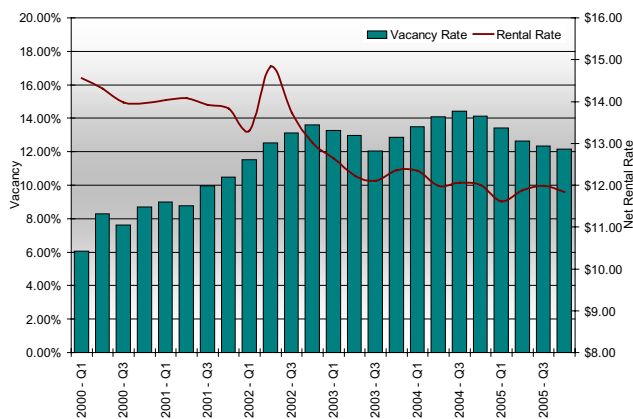


Source: CB Richard Ellis - Minneapolis

Premium Office Rents

Comparing aggregate average rents with the average net asking rate for A-class office space shows that Class A, while it remains almost two dollars higher than the market average, has fallen almost three dollars from its 2000 level. Currently hovering around \$12, this more drastic drop in net rental rates may account for the fact that vacancy rates did not rise as sharply as compared to the average, having risen only six points versus the nearly eight on average.

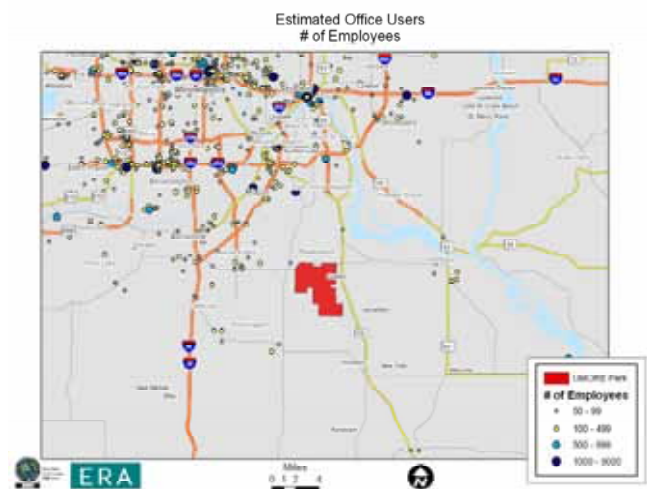
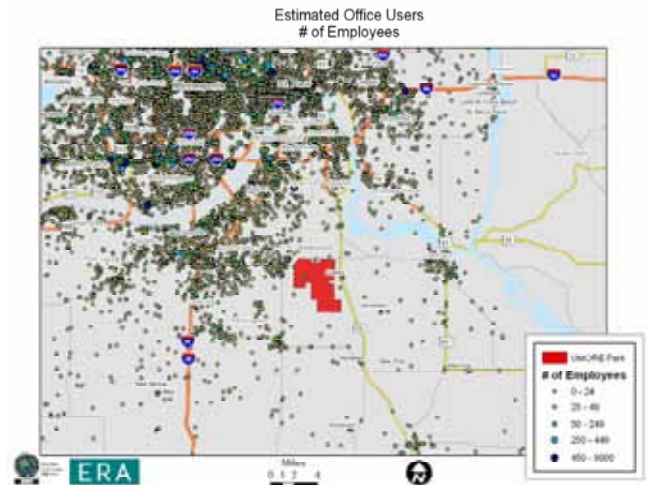
CLASS A SPACE – VACANCY VS. RENTAL RATE



Source: CB Richard Ellis - Minneapolis

Major Office Nodes in Metro Area

The Sasaki Team identified industry segments whose operations are typically housed in office space and are potential office tenants. These segments include services like finance, insurance, and real estate (FIRE). The following maps show business establishments that fall into these segments and are color-coded by estimated number of employees per establishment. The first map shows all identified establishments and the second identifies business establishments with 50 or more employees. Places like Burnsville and Eagan, with good access to interstates and connecting highways, appear to draw significant economic activity.



South Central Industrial and Office Warehouse

The South Central industrial submarket covers the entire area to the south of Minneapolis and St. Paul, including the UMore Park site. Much of this area has been zoned industrial and most land is held by developers. This makes entry into the market for developers and companies without land difficult. The South Central area is also a rapidly expanding suburban region. As residential communities stretch further out, rising land prices and the innate conflict between residents and business owners are making new industrial expansion in the area increasingly difficult.

The Office Warehouse market, which is typically associated with R&D and other types of high-tech businesses, has been an emerging niche as traditional manufacturing and heavy industrial sites have moved to areas where labor is less expensive. It offers the opportunity for the University of Minnesota to develop joint ventures and partnerships with potential tenants to further University research goals.

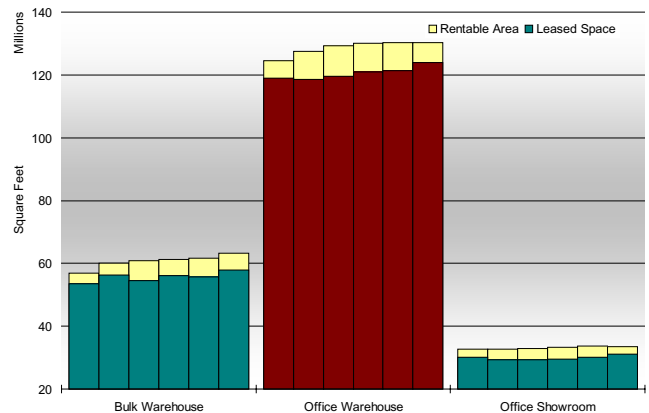
Industrial Supply

The overall supply of net rentable industrial space has grown since 2000. With an annual growth rate of around 2%, the Minneapolis-St. Paul market has added over 16 million square feet of net rentable industrial capacity in the last five years.

Industrial Subclasses

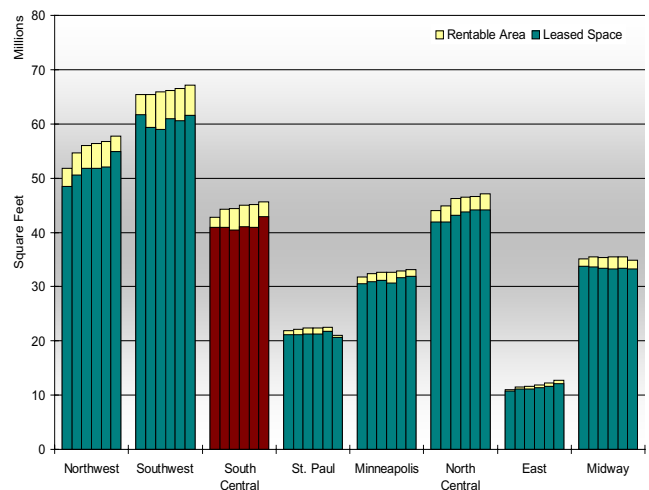
Office Warehouse makes up the largest portion of the Minneapolis-St. Paul industrial market. Office Warehouse space represents 41% of the market, with 130 million square feet of net rentable space. It has been growing at an annual rate of just under 1% per year. Bulk Warehouse is the second largest submarket with 63 million square feet of space. It represents nearly 20% of the whole market. The third largest submarket, Office Showroom, makes up 10.5% of the market. The Bulk Warehouse and Office Showroom markets have been growing at an annual rate of 2.1% and 0.5% respectively. This makes the Bulk Warehouse the fastest growing area of the market and according to reports most of this growth has been in the South Central market.

INDUSTRIAL SUBCLASSES – SUPPLY VS. DEMAND



Source: CB Richard Ellis - Minneapolis

SUPPLY VS. DEMAND 2000 TO 2005



Source: CB Richard Ellis - Minneapolis

Industrial Submarkets

The largest submarket in the Minneapolis-St. Paul Metro area is the Southwest, with over 67 million square feet of net leasable industrial space. However, it has grown only 3% since 2000 or about 0.5% per year. The second largest submarket, the Northwest, has added over 6 million square feet of net rentable space in the past five years. The fastest growing market has been the smallest of the submarkets, the East, with a compounded annual growth rate of almost 3%. Midway and St. Paul were the only submarkets to actually see a decrease in the amount of leasable space over the five-year span from 2000 to 2005. Both declines occurred from

2004 to 2005 with Midway losing just over 66,000 square feet and St. Paul losing almost 1.5 million square feet in leasable area.

South Central Submarket - Office Warehouse Growth

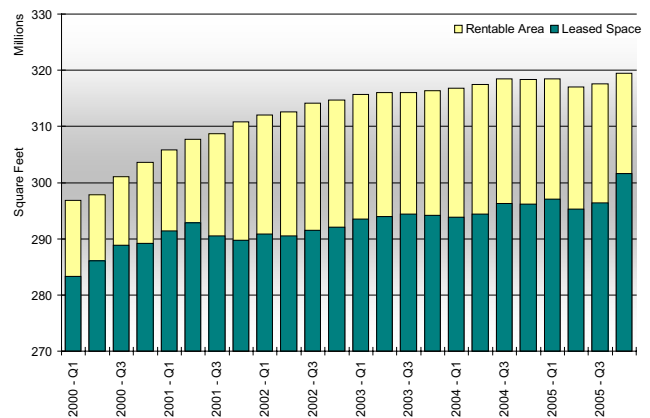
The South Central Industrial Submarket is the fourth largest in the Minneapolis-St. Paul Metro and the fourth fastest growing. It has added the third most net rentable space since 2000. Growth in supply has averaged a little over 1% yearly.

The Office Warehouse submarket – the largest submarket as a percentage – has seen supply growth of less than 1% on a yearly basis, and no significant growth since 2002. Bulk Warehouse is the only subclass of industrial space to see significant growth in supply in within the past several months.

Industrial Vacancy and Absorption

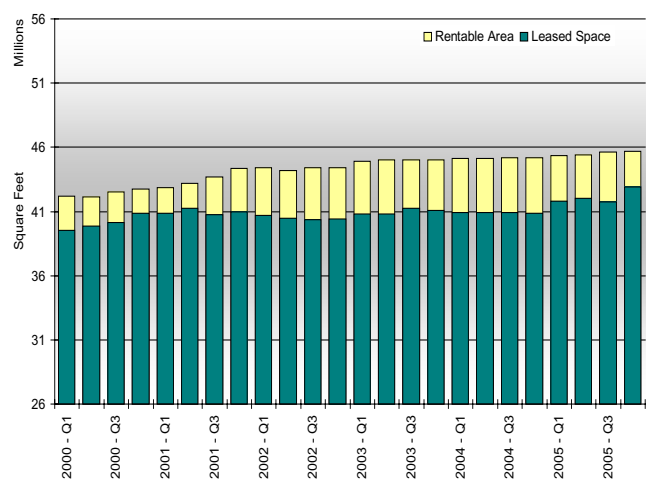
The average vacancy rate has increased less than 1% annually since 2000. Generally speaking, absorption has kept pace with supply increases, keeping vacancy rates from 2% to 8% in 2005 depending on the specific submarket. The aggregate market has seen a net increase of about 18 million square feet in leased industrial space since 2000 and vacancies have continued to recover from their 2003 third quarter lows. Absorption hit a five-year high in 2005 with an additional 5.5 million square feet of leased over 2004. However, future absorption of the 18 million square feet of vacant industrial space on the market will be slow and will continue to be a market focused on build-to-suit construction. Until developers run out of land or the price of land becomes prohibitive, absorption of older properties will continue to be slow.

INDUSTRIAL MARKET – SUPPLY VS. DEMAND



Source: CB Richard Ellis - Minneapolis

SOUTH CENTRAL – SUPPLY VS. DEMAND



Source: CB Richard Ellis - Minneapolis

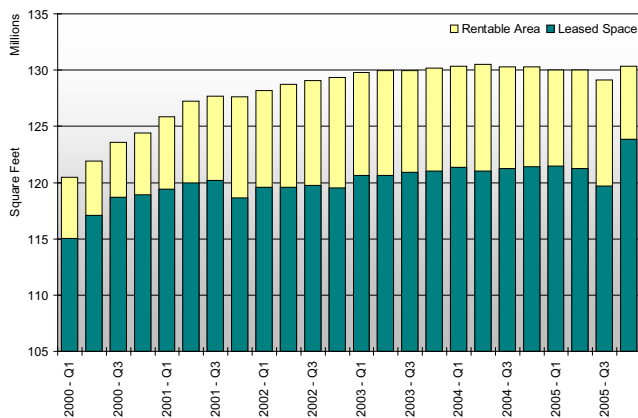
Vacancy rates have increased slightly in every market except the Northwest, St. Paul and Minneapolis markets. The average vacancy rate in St. Paul was below 2% in 2005, the lowest in the market. The highest was the Southwest with an average of over 8%. Absorption has varied across the different markets. The Northwest has been the strongest by far, averaging almost 1.3 million square feet per year. The largest market, the Southwest, has been somewhat volatile and has averaged a 15,000 square foot annual loss since 2000. The only two markets that registered negative absorption in 2005 were St. Paul and Midway due to losses in market supply.

Submarket Demand

Office Showroom space has averaged 1 million square feet of absorption yearly since 2000 and, like the rest of the market, experienced a major increase in demand in 2005. Of all the subclasses, the Office Warehouse sector has seen the most consistent gains in absorption.

Vacancy rates in the three industrial submarkets have remained fairly stable. The biggest vacancy rate change has come in Bulk Warehouse, which has risen 2 percentage points since 2000 to over 8%. The Office Warehouse and Office Showroom classes have seen a slight increase and slight decline in vacancies respectively of about 0.5% to around 5% and 7%. However, all three categories have had strong absorption rates. Both Bulk Warehouse and Office Showroom have averaged close to 1 million square feet of absorption yearly with Office Showroom absorbing about 200,000 square feet per year.

OFFICE WAREHOUSE – SUPPLY VS. DEMAND



Source: CB Richard Ellis - Minneapolis

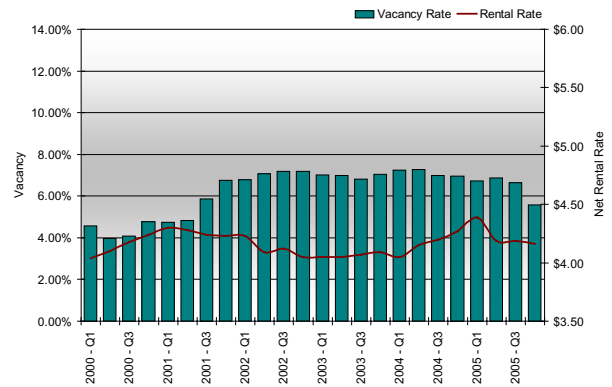
South Central Submarket - Office Warehouse Demand

Demand in the South Central Industrial Submarket was stable between 2000 and 2004. The vacancy rate during this period rose from about 4.4% to an average high of 9.5% in 2004 due to increasing supply. This trend reversed in 2005 with an additional 2 million square feet of absorption causing the average vacancy rate to fall back to about 6%.

Industrial Market Rents

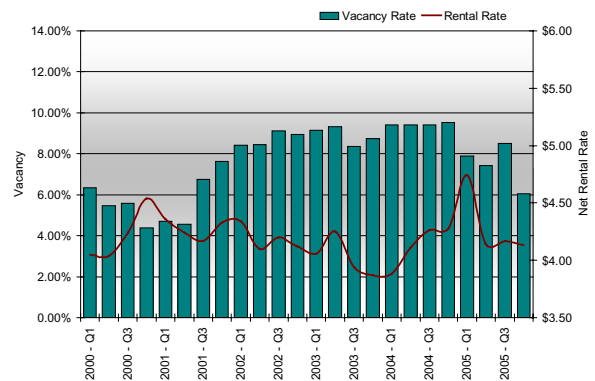
The Minneapolis Industrial Market rental rates were stable over the past five years. Average net rents peaked in the first quarter of 2005.

INDUSTRIAL MARKET – VACANCY VS. RENTAL RATE



Source: CB Richard Ellis - Minneapolis

SOUTH CENTRAL – VACANCY VS. RENTAL RATE



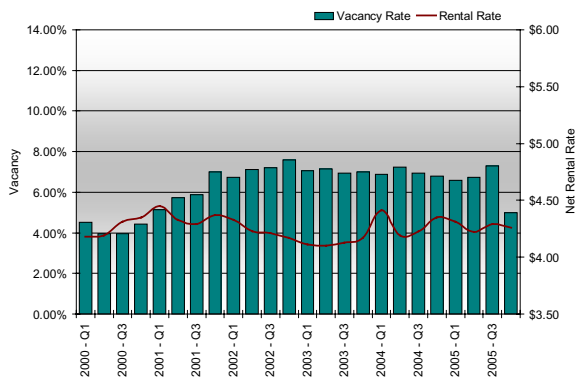
Source: CB Richard Ellis - Minneapolis

Pertinent Industrial Rents

The South Central submarket has been significantly more volatile than the Minneapolis market with respect to both averages asking rent and vacancy rate. The average rent has increased only \$0.08 since 2000 but has fluctuated between about \$3.80 and \$4.70. Vacancies in this market also have reached much higher levels, close to 10% versus the 8% market average, and still remained about 0.5% higher at the end of 2005.

Office Warehouse has performed fairly close to the market as a whole with an average vacancy of 6.3% over the past five years. At the same time rents have been \$0.09 higher than the greater market on average and increased \$0.08 since 2000.

OFFICE WAREHOUSE – VACANCY VS. RENTAL RATE



Source: CB Richard Ellis - Minneapolis

RETAIL MARKET

In general, the retail market has been consistently strong and stable in the Minneapolis-St. Paul area. As is typical with retail markets, demand is simply a factor of population and retail developments follow population growth. The Apple Valley/Lakeville submarket appears to be one of the rising stars of the regional retail market. However, the UMore Park site is not ideal for large-scale retail development because it is not directly on a major highway or road. It is likely that land in Coates just to the east of the site along State Route 52 may be more attractive to major big box retailers, though opportunity does exist for the UMore Park site. Town center retail is more likely for UMore Park under a master planned scenario. This type of development will fit in well with the recommended residential component.

With close to 60 million square feet of gross leasable area and an inventory of shopping centers that includes the Mall of America, the Minneapolis-St. Paul retail market is one of the larger and more prestigious shopping regions in the United States. Growth has been steady in this market, which is dominated by traditional malls and indoor shopping centers due to the Minnesota winter.

The Sasaki Team anticipates that Convenience Center and Neighborhood Center development will likely take place in Scenarios A and B, with greater potential for Community Center development in Scenario C. Scenario C development will likely have a greater awareness in the marketplace, and thus greater capture of retail demand to support a larger retail component.

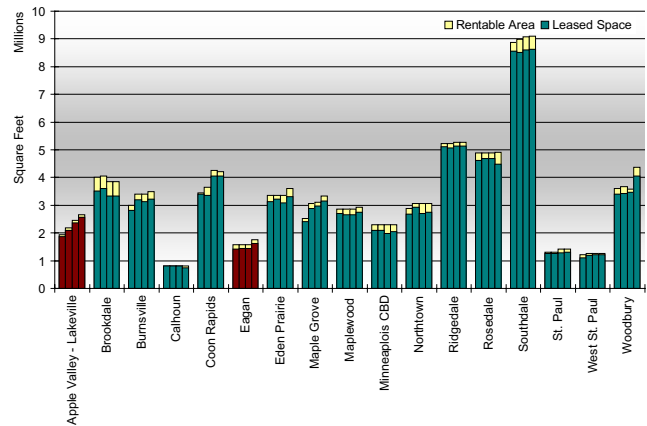
Retail Supply

In the three years since 2002, there has been an additional 6.6 million square feet of gross leasable area added to the Minneapolis-St. Paul Metropolitan retail market. With an average growth in supply of around 2 million square feet per year, new construction in the retail sector has been steady.

Retail Submarkets

Southdale leads the retail market in gross leasable area with over 9 million square feet, 4 million square feet more than the second largest submarket. Ridgedale, Woodbury, Maple Grove and Coon Rapids have grown the most over the last three years, all having added around 780,000 square feet of shopping space since 2002 and with compound annual growth rates of 6.8%, 9.5% and 7% respectively. Apple Valley/Lakeville has been growing the fastest at a compounded rate of 11% per year with over 700,000 square feet constructed since 2002. Brookdale is the only submarket that has actually decreased in gross leasable area since 2002, falling by 156,000 square feet in 2004. While downtown Minneapolis has not lost any retail area, there has been no notable expansion in this market, Calhoun or Rosedale.

RENTABLE AND LEASED SPACE BY SUBMARKETS – 2002 TO 2005 Source: CB Richard



Ellis - Minneapolis

Apple Valley/Lakeville Growth

The Apple Valley/Lakeville submarket has experienced the highest annual growth rate over the past three years and added the fourth most gross leasable area of any market region. However, the Apple Valley/Lakeville market is still relatively small with a total of only 2.6 million square feet.

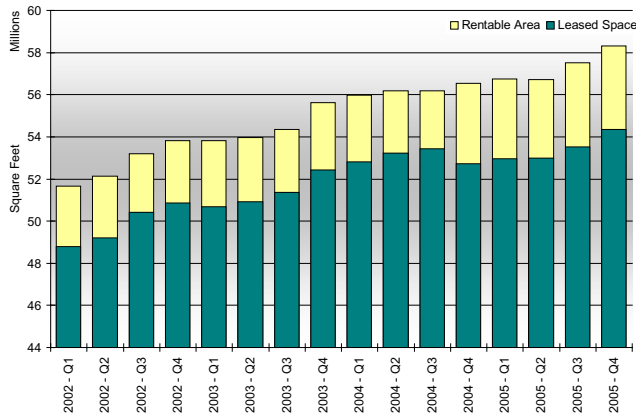
Retail Vacancy and Absorption

Vacancy rates have increased marginally since the beginning of 2002, going up a little over one percentage point over three years. During this same time, the Minneapolis market has absorbed an additional 5.5 million square feet in retail space. By the end of 2005, 1 million square feet, or 6.8% of total space, remained vacant.

Retail Submarkets

Vacancy rates at the end of 2005 varied by as much as 10 percentage points between individual retail markets, with market specific rates moving both up and down since 2002. Ridgedale had the lowest vacancy rate, remaining almost unchanged from its 2002 level at 2.5%. The vacancy rate in the West St. Paul submarket decreased the most, falling from 8.1% to 3.1% by 2005. The biggest increase in vacancy came in Calhoun, the smallest submarket, rising over 7.6 percentage points. Every market besides Apple Valley/Lakeville, Eagan, and West St. Paul has experienced increases in vacancy rates since 2002. But even with rising vacancies in all of these submarkets, only Brookdale, Calhoun, Northtown and Rosedale had cumulative negative absorption. Seven of the sixteen submarkets have absorbed 100,000 square feet or more over the past three years.

MSA RETAIL MARKET – SUPPLY VS. DEMAND

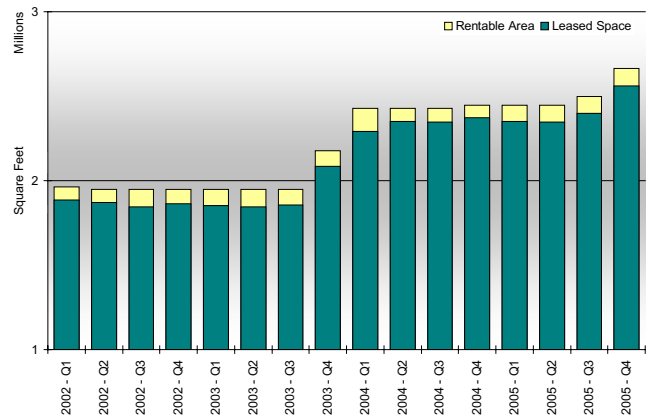


Source: CB Richard Ellis - Minneapolis

Apple Valley/Lakeville Demand

The retail market in the Apple Valley/Lakeville region has been one of the best performing submarkets over the past three years. With the fourth lowest vacancy rate, third highest decline in vacancy and second most overall absorption, this market has exhibited particular strength and year-over-year gains in both supply and demand.

APPLE VALLEY/LAKEVILLE – SUPPLY VS. DEMAND

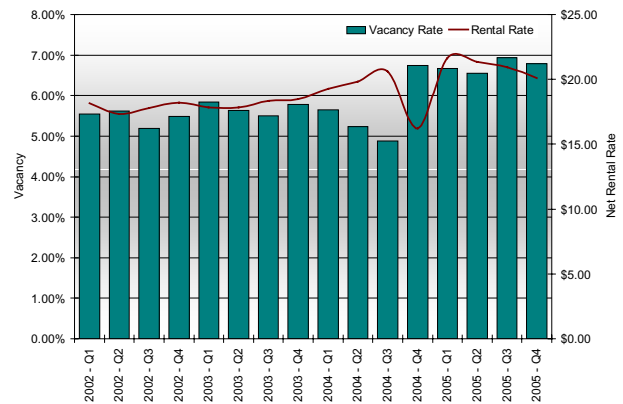


Source: CB Richard Ellis - Minneapolis

Retail Market Rents

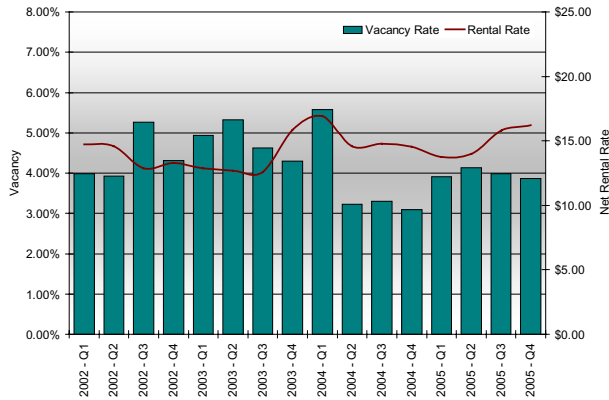
Retail rents have gone up almost \$2.00 from their first quarter 2002 average – about 3% per quarter. However, at the same time the average aggregate vacancy rate has increased 1.3 percentage points or almost 6% per quarter. Gains in rental rates have been offset by the loss of tenants. It is also important to note that the fourth quarter 2004 average rents do not include Regional or Super-Regional shopping centers. Without including these shopping centers the average asking rent drops by approximately \$5.00 per square foot.

RETAIL MARKET – VACANCY VS. RENTAL RATE



Source: CB Richard Ellis - Minneapolis

APPLE VALLEY/LAKEVILLE – VACANCY VS. RENTAL RATE



Source: CB Richard Ellis - Minneapolis

Pertinent Retail Rents

While the Apple Valley/Lakeville market’s average asking rent has risen almost \$1.50 since 2002, is still almost \$4.00 below the market average. The average vacancy rate has declined at a quarterly rate of 1% and was nearly 3 percentage points below the market average at the end of 2005.

Retail Gross Leasable Area (GLA) Per Capita

According to the National Research Bureau Shopping Center Directory, Dakota County currently has about 12% of the seven-county retail gross leasable area (GLA) in square feet. A little over 60% of the County’s shopping center retail was built or renovated before 2000. Since that time, a little over 2 million square feet has been added or renovated.

The Sasaki Team compared GLA per capita in the Minneapolis metro area to nation-wide trends and found the metro area has about 18 GLA per capita while the nation has about 20 GLA per capita. The following tables indicate the estimated additional GLA (SF) needed to support the population.

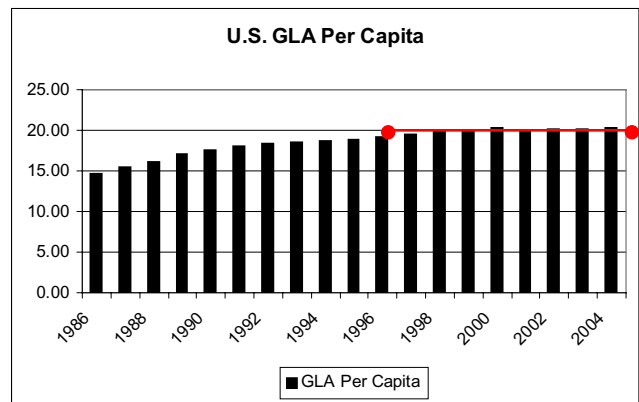
TABLE 26. ESTIMATED GLA DEMANDED

Estimated Supportable Additional Square Feet of Shopping Center Space

Year	Dakota County (SF)	7- County Area (SF)
2004	860,000 to 1,620,000	950,000 to 6,500,000
2005-2010	600,000 to 680,000	4,630,00 to 5,140,000
2011-2020	1,110,00 to 1,220,00	6,280,000 to 6,970,000
2021-2030	3,190,000 to 690,000	4,730,00 to 5,260,00

Estimated Supportable Annual Additional Square Feet of Shopping Center Space

Year	Dakota County (SF, Annual)	7- County Area (SF)
2005-2010	100,000 to 110,000	770,000 to 860,000
2011-2020	110,000 to 122,000	628,000 to 697,000
2021-2030	319,000 to 69,00	473,000 to 526,000



Source: CB Richard Ellis - Minneapolis

CURRENT AND PLANNED DEVELOPMENT

The following chart has some quantitative observations made by local contacts on current and planned development followed by additional information received during these conversations. Note that raw land values are for land with access to sewer and utilities and zoned appropriately for development. For a list of contacts, please see the Appendix.

City of Rosemount

Finished residential lots have been selling for \$70,000 to \$100,000. Average lot density is currently 3.2 units per acre. The Sasaki Team’s contact stated that in the region around Routes 3 and 42 commercial and industrial developed properties have been selling for \$15 per square foot and \$3 to \$4 per square foot respectively.

The most recent sale of land with off-site infrastructure was to Pulte homes at a price of \$140,000 per acre for 240 acres. The original plan was for 600 units, 80 of which would be rural residential and the rest split evenly between single-family and multi-family units. Their proposed development was part of a larger, 2,000-acre development plan by the city for the land to the north of Route 42 and UMore Park, of which 600 acres is planned to be commercial and business development. However, Pulte Homes has abandoned this project, reportedly due to a reassessment of market dynamics and cost.

New residential building permits are at their lowest point in the last four to five years. The single-family home market seems to be making a comeback as the townhome market is fairly saturated.

TABLE 27. LAND VALUE AND DEVELOPMENT TRENDS BY MUNICIPALITY – BASED ON CONVERSATIONS WITH LOCAL OFFICIALS

	Rosemount	Empire Township	Farmington
Raw Land Value:			
Residential	\$140,000/acre – highest observed	\$60,000 – \$80,000/acre	\$80,000 – \$120,000/acre
Commercial	-	-	-
Industrial	-	-	-
Finished Lots:			
Residential	\$70,000 - \$100,000/lot	\$160,000/lot – most recent w/ 10-lot min.	-
Commercial	-	-	-
Industrial	-	-	-
Finished Development:			
Residential			\$200,000+ Older Homes for \$180,000 New Developments in \$600,000 range
Commercial	\$15/sq. ft. ave.	-	-
Industrial	\$3 - \$4/ sq. ft. ave.	-	-
Density:			
	3.2 lots/acre average	3 – 3.5 lots/acre	-
Miscellaneous:			
	New building permits at 4 – 5 year low	Density controlled by township Developers pushing to increase density	Trend towards multi-family/single family attached No apartments in past 20 years Permits slowing

Empire Township

Empire Township is host to the South Suburban Sewage Treatment Office which enables the Township special development rights. Empire Township is on the fringe of suburban development and usually limits densities to 3 lots per acre, although densities go as high as 3.5 lots per acre. Vacant land in recent years has typically been selling in the \$60,000 to \$80,000 per acre range although the Sasaki Team’s contact reported that a tract recently sold for \$100,000 per acre.

Current developments are a mix of single-family with limited attached developments. Developers are looking to increase residential density in the area to around 3.5 units per acre and to construct town center style developments with easily accessible amenities and shopping.

City of Farmington

Land without any improvements as been selling in recent years from anywhere between \$80,000 and \$120,000 per acre. Finished homes have been sold anywhere from \$180,000 for smaller older homes to upwards of \$600,000 in new developments. While past developments had typically been single-family and town homes, newer residential has mostly been multi-family with smaller lot sizes.

This local area has already been well developed and recent developments have been turning from residential to commercial. The biggest project in recently is the 450-acre, master planned, Spruce Street Corridor which will include 60 acres of retail and office space. However, in the last year new building permits have slowed along with sales.

Lakeville	Apple Valley	Eagan	Inver Grove Heights
\$110,000 – \$390,000/acre	\$150,000 – \$200,000/acre	\$100,000 – \$150,000/acre	\$100,000+ /acre
\$6.50 – \$9.00/ft.	-	-	-
\$2.50 – \$3.50/ft.	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	\$200,000 - \$400,000+ /acre Some commercial reaching \$600,000+	\$450,000 - \$500,000
\$11.00 – \$18.00/ft.	-	-	-
\$5.25 – \$7.00/ft.	-	-	-
-	New development 24 units/acre with 48 unit/acre downtown	-	Density range 4 –5 units/acre New development 3 units/acre
Residential building permits stable 235 vs. 210 for May '05 and '06	Constant absorption of est. 400 units/yr Area 90% built-out Remaining land sand/gravel production – transition eventually	110,000 sq. ft. of Class-A office planned Home sales slowed New construction mostly attached units/ increasing density	Average 2005 Building Permit: \$385,000 ex. lot costs Slowing development – lack of infrastructure Building permits fell by 434 from '03 to '05

City of Lakeville

Lakeville has experienced steady and prosperous growth in recent years. The city has projected 500 to 650 new units on a yearly basis for at least the next several years.

The biggest hindrance to development is access to utilities. The southern portion of Lakeville is not part of the Metropolitan Industrial Service Area and therefore has no access to sewer and water. However, this southern portion will have access to utilities starting in 2010 and will be phased in through 2050.

Commercial land is currently selling in the range of 479,000 to \$784,000 per acre for finished platted land. Raw commercial land is estimated at \$300,000 to \$392,000 per acre. Industrial platted land is selling for \$228,000 to \$305,000 per acre and raw industrial is selling for \$109,000 to \$141,000 per acre.

City of Apple Valley

Unlike most communities in the area, land available for development in Apple Valley is limited. Available land is 90% built out and the land that will come on-line eventually will be from converting sand and gravel mining operations as they reached the end of their life cycle.

Raw land is selling from \$150,000 to \$200,000 per acre without improvements. Recently, a village-like development has been approved with a density 48 units per acre, double the typical density. The City's latest development, Cobblestone Lake, a 300+ acre master planned community, has a 12 unit per acre density.

Apple Valley has enjoyed fairly steady absorption rates, even in recent years when many other communities have seen declining permits. Sales have been constant at 400 units per year over the last several years.

City of Eagan

Unimproved land is selling for \$100,000 to \$150,000 per acre. However, depending on the location, finished development, houses, townhomes, commercial, and industrial units are selling for \$200,000 to \$400,000 per

acre. Commercial property in close proximity to the highway is selling for as high as \$600,000 per acre of developed land, although much of this is speculative construction.

Recent residential sales have slowed significantly. Attached units and multi-family as well as retail and office space are the primary forms of new construction. The City recently approved three new Class-A office projects with a total of 155,000 square feet and there are another 110,000 square feet in the planning stages. All of these projects will incorporate first floor retail space.

City of Inver Grove Heights

The City of Inver Grove Heights has experienced moderate and steady growth, though this has slowed in the past two years. Declining demand and the rising cost of raw land have contributed to this decline with unimproved land currently selling for \$100,000+ per acre.

The average residential building permit in 2005 was \$385,000, which excludes the cost of land. Finished, single-family homes are currently selling around \$450,000 to \$500,000 and densities currently range in the 4 to 5 unit per acre range.

Another problem for new development has been a lack of available water and sewer infrastructure. Residential building permits have dropped steadily from 635 in 2003 to 201 in 2005. Estimates indicate that there will be only 150 new residential permits – most of them for townhomes – in 2006.

The City has recently allocated five square miles for development in the northwest corner and will begin installing sewer and water in the spring. This infrastructure will be added in two phases over the next twenty years at an estimated cost of \$16.5 million for Phase I and \$13.7 million for Phase II. At build out this mixed development will have 6,000 residential units of all types, 3 million square feet of commercial and retail space, and light industrial facilities. Average density in this area will be approximately 3 units per acre.

TABLE 28. RECENT DAKOTA COUNTY LAND TRANSACTIONS

Land Use	County	PID	PID2	Date of Sale	Location	Acres	Sale Price	Price Per Acre	Zoning	Utilities	Comments
Agricultural / Mining	037	120060001006	037-120060001006	1/1/2005	Rosemount	339.5	\$10,442,780	\$30,759	AG, Agricultural	Not available	Cash sale. Bought for mineral extraction and investment
Agricultural / Mining	037	120360001101	037-120360001101	10/1/2004	Farmington	68	\$694,000	\$10,206	AG, Agricultural	Not available	Cash sale. Bought for agri. Purposes.
Agricultural / Mining	037	340230001155	037-340230001155	6/1/2004	Rosemount	79.3	\$2,210,000	\$27,869	AG, Agricultural	Not available	Cash sale. Bought for sand and gravel mining. Seller had limited knowledge of mining. Purposes. Buyer felt that development was at least 20 years away.
Agricultural / Mining	037	070060002075	037-070060002075	1/1/2004	Castle Rock	147.32	\$1,240,016	\$8,417	AG, Ag. Preserv. District	Not available	Cash sale. Bought for sand and gravel mining.
Agricultural / Mining	037	120060001050	037-120060001050	7/1/2003	Empire Township	155.47	\$5,312,500	\$34,171	AG, Ag. Preserv. District	Not available to site	Cash sale. Bought for rural residential purposes. Parcel had a 1,569 SF building, built in 1895. Purchased for land. For office.
Agricultural / Mining	037	120360002054	037-120360002054	4/1/2003	Empire Township	10.12	\$164,000	\$16,206	AG, Ag. Preserv. District	Not available	For immediate resale? - Commercial Property purchases to develop Creekside Business Park
Office/Industrial	037	220011001026	037-220011001026	1/20/2006	Lakeville	11.5	\$845,798	\$73,612	C-3	Available	Purchased for industrial use. 85% of land considered to be useable. \$400,000 in special assessments to bring sewer and water to site.
Office/Industrial	037	142595202001	037-142595202001	9/9/2005	Lakeville	18.0	\$803,268	\$44,601	BP	Available	Cash sale. Purchased for trucking operation.
Office/Industrial	037	220320001434	037-220320001434	4/1/2005	Lakeville	14.63	\$1,695,458	\$115,889	I-1	Available	For commercial development
Office/Industrial	037	220360001125	037-220360001125	3/11/2005	Lakeville	28.6	\$2,592,788	\$90,816	C-3 & CW	Available	For office warehouse. Condemnation or foreclosure transaction
Office/Industrial	037	202840101000	037-202840101000	3/1/2005	Inner Grove Heights	34.41	\$1,500,000	\$43,592	I2, Industrial	Available	Purchased for potential office/warehouse with outdoor storage
Office/Industrial	037	200340002077	037-200340002077	12/1/2004	Inner Grove Heights	25.81	\$2,487,295	\$96,369	I2, Industrial	Available	Purchased for single-family development
Office/Industrial	037	220340001626	037-220340001626	12/11/2003	Lakeville	32.2	\$2,000,000	\$62,073	I-2	Available	Use Code 1221, land and buildings, purchase agreement signed over 2 years ago. For residential use.
Office/Industrial	037	221037502000	037-221037502000	9/3/2003	Lakeville	14.3	\$1,500,000	\$104,895	I-2	Available	Use Code 1004, for Vacant Land
Office/Industrial	037	340321002285	037-340321002285	6/1/2003	Rosemount	15.32	\$612,800	\$40,000	BP, Business Park	All available	Use Code 1500 - buyer plans to develop the site w/ a 480 twin and townhome lots
Residential	037	340211000101	037-340211000101	10/1/2005	Rosemount	159.3	\$9,250,000	\$53,123	AG, Agricultural	Available	Purchased for multi-family residential purposes; in-fill site allowing one to four lots, 480 dwellings planned (about 6 dw/acre)
Residential	037	220120001052	037-220120001052	6/1/4/2005	Lakeville	80.2	\$7,014,339	\$87,450	RM-2	Water, Sewer, Storm Sewer, and Nat. Gas: MUSA, Curbing: none	Residential, single family
Residential	037	220240001052	037-220240001052	5/17/2005	Lakeville	59.5	\$873,000	\$14,923	RH-1	Available 11/05	Residential, single family
Residential	037	220120001052	037-220120001052	5/15/2005	Lakeville	80.2	\$6,868,900	\$85,522	RM-1	Available	To be developed with single-family homes.
Residential	037	220120001052	037-220120001052	5/1/2005	Rosemount	80.2	\$6,868,900	\$85,522	RM-1	Available	Extension of Glendalough development.
Residential	037	220020001176	037-220020001176	3/30/2005	Lakeville	76.0	\$6,000,000	\$79,916	RM-1	Available	Residential, single family
Residential	037	221697507000	037-221697507000	3/24/2005	Lakeville	32.2	\$3,484,699	\$108,354	RS-3	Available	Resale for development, 7 buildings on parcel totalling 56,155 SF. Cobblestone Lake LLC - Spirt of BRANDTJEN Farm
Residential	037	220280006075	037-220280006075	2/28/2005	Lakeville	20.0	\$2,538,910	\$126,945	RST-2	Available	Residential, single family
Residential	037	342514501000	037-342514501000	2/1/2005	Rosemount	71.86	\$5,266,507	\$73,288	R-1, Residential	Available	Current zoning allows for one dwelling per 10 acres.
Residential	037	220200003002	037-220200003002	1/11/2005	Lakeville	45.5	\$5,698,193	\$125,235	RS-3	Available	Commercial type 670 (Shopping center/mail)
Residential	037	227145201002	037-227145201002	12/19/2003	Lakeville	39.5	\$3,175,124	\$80,363	RM-1	Available	
Residential	037	227130010300	037-227130010300	12/11/2003	Lakeville	310.7	\$13,321,680	\$42,872	PUD	Available	
Residential	037	220170002025	037-220170002025	10/9/2003	Lakeville	34.8	\$2,002,270	\$57,503	RS-2	Available	
Residential	037	220180001125	037-220180001125	8/1/2003	Inner Grove Heights	25.34	\$750,000	\$29,597	AG, Agricultural	Unavailable	
Retail	037	220100002425	037-220100002425	10/7/2005	Lakeville	11.2	\$687,500	\$61,659	C-3	Unavailable	

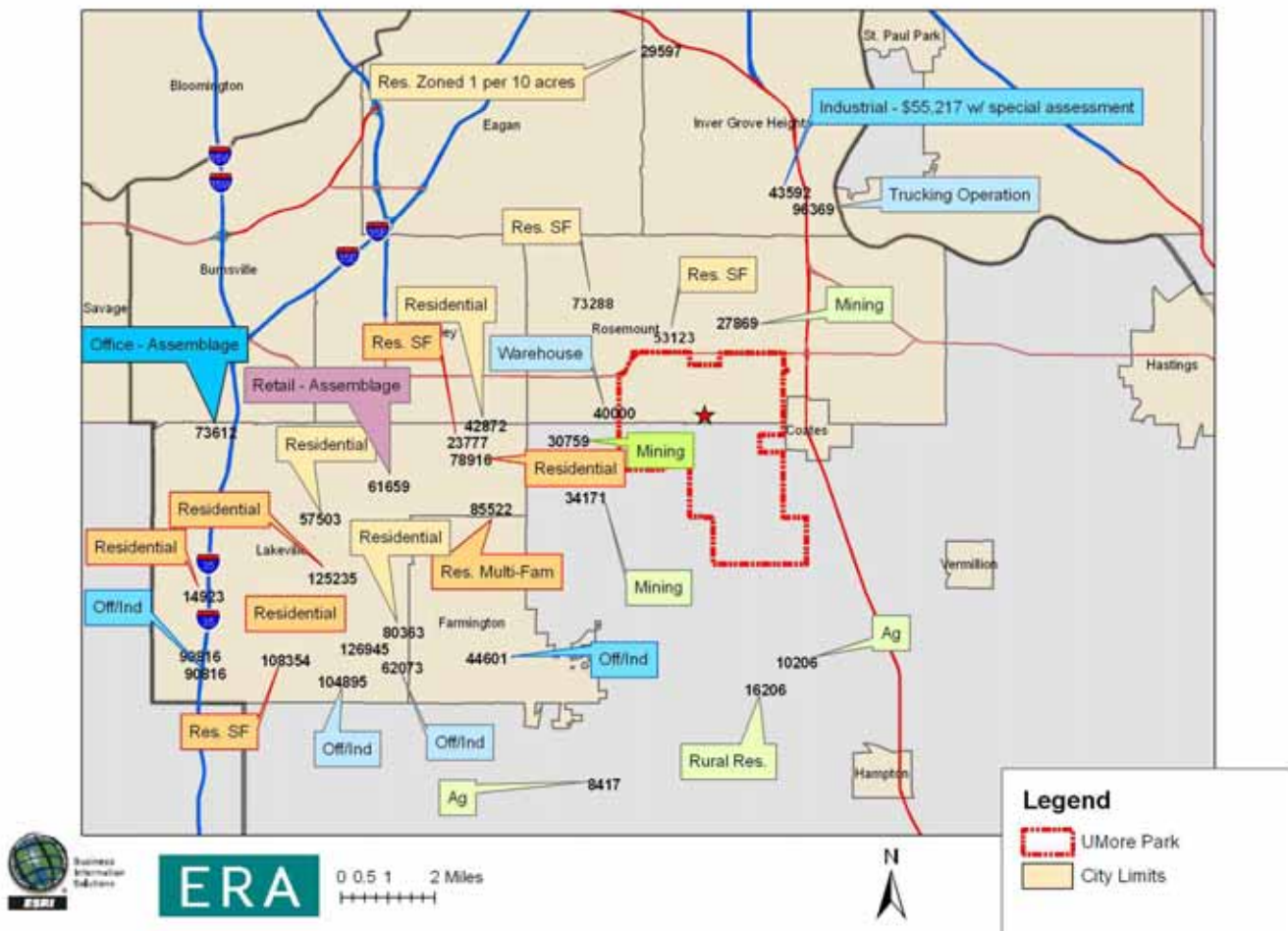
Source: Shenon Appraisers – Land Transaction Listings

LAND VALUES

The estimated value of the land was derived from a weighted average of land values across the property. Values are based on current land sales near the site. The Sasaki Team estimated market values understanding that this large site has varying access to a wastewater line run by the Metropolitan Council (Met Council) on the west edge of the property. For this reason, land values on the west side of the property will be higher because of their direct access to this line. Land in the southeast corner of the site has less immediate accessibility and higher infrastructure costs so its land value will not be as high.

The Sasaki Team received information on land values from recent transactions in Dakota County to help determine the value of the UMore Park land in testing scenario options. The following table lists a variety of agricultural, commercial, and residential land transactions, and the accompanying map identifies their location. Please note that where residential development was specifically identified as single-family development, the transaction is noted as "Res. SF" in the map.

Dakota County Land Sales - \$ Per Acre



Other notable transactions helped define the value of land on the western portion of UMore Park that has more immediate accessibility to the Met Council wastewater line. They are as follows:

- A recent appraisal of land for a site near the western edge of the site for the Southeast Dakota Technical College valued land at \$35,000 per acre.⁸
- A recent transaction between the University of Minnesota and the State of Minnesota for 2,840 acres of UMore Park property. The value of the transaction is estimated at about \$150,000,000, or about \$50,000 per acre.

- A recent appraisal of land for an easement near the western boundary of the site for a Met Council wastewater pipe valued land at \$50,000 per acre.⁹

The following table provides a list of area land sales for sites similar to UMore Park in that they do not yet have urban utilities or development rights. This information, combined with information on a recent land transaction towards the southeast side of the property with Xcel Energy, helped determine land values for the south-east section, which is the furthest area from the Met Council wastewater line that runs on the western boundary of the property.

TABLE 29. AREA LAND SALES WITH NO URBAN UTILITIES & DEVELOPMENT RIGHTS

Land Sales with No Urban Utilities & Development Rights								
Street Address	City	SaleDate	SalePrice	Acres	Price/Acre	Zoning	MUSA	Comments
18190 Fischer	Vermillion	Oct-02	\$303,760	38.0	\$8,000	AG	No	Ag use, aggregate buyer
2112 135th	Rosemount	Nov-02	\$795,000	75.2	\$10,570	AG	No	Ag land, bought for mining/gravel operation
SEC 135th & Akron	Rosemount	Dec-02	\$1,157,445	51.8	\$22,344	AG	No	Traversed by RR, Green Acres but buyer opted out at sale, abuts 2020 MUSA
Pine Bend & Courthouse	Nininger	May-03	\$150,000	18.3	\$8,179	AG	No	well exposed, partially wooded
160th & Jacob	Nininger	May-03	\$526,900	57.8	\$9,110	AG	No	34 acres tillable. CR 47 is paved, Jacob is not.
Courthouse & Pine Bend	Rosemount	Aug-03	\$1,517,250	86.7	\$17,498	AG	No	MUSA abuts to the west, partially wet, partially wooded
170th & CR 47	Marshan	Sep-03	\$1,444,444	173.8	\$8,310	AG	No	100% tillable, Ag Preserve Program
CR 47 & 205th St	Vermillion	Nov-03	\$600,000	111.2	\$5,394	AG	No	98.2 acres tillable, Ag Preserve Program
Hogan & 155th	Nininger	Nov-03	\$271,000	39.8	\$6,812	AG	No	easement access, no exposure, agriculture use
240th & Biscayne	Castle Rock	Jan-04	\$1,240,016	147.3	\$8,417	AG	No	Farm with 7 acres of wetland, dirt roads
Biscayne N of 190th	Empire	Feb-04	\$3,600,000	161.2	\$22,338	AG	No	Gravel mining operation
2240 138th St	Rosemount	Apr-04	\$2,210,000	80.0	\$27,625	AG	No	Ag land, no exposure or access, found hydrant on site
Conrad & 232nd	Hampton	Jul-04	\$966,800	97.8	\$9,883	AG	No	Farm with SFR planned, little exposure, dirt roads
210th & Clayton	Empire	Jul-04	\$660,000	68.0	\$9,703	AG	No	Entirely usable farmland, paved roads at NEC
	Totals		\$15,442,615	1,207.0	\$12,794			
	Average				\$12,442			
	Median				\$9,406			
	St. Dev.				\$6,979			

Source: UMore Park Committee

⁸ Source: The Valuation Group, Inc., reflecting values for residential development.

⁹ Source: Shenehon Appraisal, reflecting values for residential development.

TABLE 30. LAND VALUE ESTIMATES

<i>Site Location</i>	<i>Access to Met Council Wastewater Line</i>	<i>Value/Acre</i>	<i>Est. Acres</i>
Western acreage	Immediate	\$50,000	2,000 acres
Middle acreage	Short-term Accessibility	\$20,000	2,000 acres
Southeast acreage	Furthest from line	\$15,000	1,000 acres
	<i>Weighted Average</i>	\$31,000	

The estimated current value of land under these scenarios (assuming the baseline concept plan for the site is accepted by the Met Council and that there is immediate direct access to wastewater treatment lines on the west side of the property) is \$31,000 per acre. This is a weighted average of land values assuming various levels of immediate accessibility from the wastewater line on the west boundary.

DERIVED VALUE FROM MASTER PLANNED COMMUNITIES

With such a large site in the middle of a growing suburban area of the Twin Cities, there are opportunities to use UMore Park as a new model for master planned development for the greater metro area and the country. The University could play a major role in creating this innovative departure.

Master planned developments have been developed in the US since the end of World War II. Master planning encompasses physical plans that seek to balance social, economic and environmental objectives. Today, urban planning and design movements such as New Urbanism and Transit Oriented Development demonstrate their principles in master planned communities. The essence of all successful master planned developments is that they create a place which facilitates a sense of community for residents and enhance every dimension of community life, including employment, recreation, education, social services, and social interaction. Master planned communities accomplish this by taking a comprehensive approach to the design, construction, development and management processes.

The physical design of master planned community typically preserves significant proportions of open space and features

efficient infrastructure design, an efficient circulation system, a range of housing types at a range of price points, and mixed-use buildings.

The sustainable characteristics of master planned communities – e.g. providing accessible transit, more diverse and cost-effective housing, more community-based social involvement, more positive social involvement, and more positive interactions among a diverse population – is increasingly seen as having a market edge among younger, educated buyers. Mixed-income housing is also recognized as way to establish a high-quality environment.

Changing demographics, increased environmental awareness, and market success of similar projects are credited with generating increased market demand for environmentally sensitive development. A master planned community allows planning for open spaces, storm water run off, and green building initiatives which result in sustainability as well as improved project marketability, higher rents and premium

TABLE 31. PLANNED COMMUNITIES COMPARED

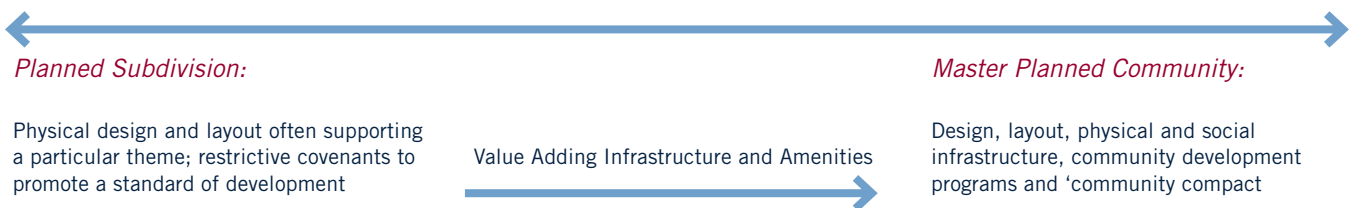
<i>Planning Form</i>	<i>Defining Characteristic(s)</i>	<i>Image</i>	<i>Examples</i>
New Communities/Towns	Large scale, long term, balanced/mixed land uses	A new town	<ul style="list-style-type: none"> • Reston, Virginia • The Woodlands, Texas • Summerlin, Nevada
Traditional Planned Communities	Moderate scale, moderate term, mixed uses, and high open space/recreation component	A new village, contemporary in form	<ul style="list-style-type: none"> • Ladera, California • Gainey Ranch, Arizona
Recreation Communities	Recreation and lifestyle organizing element(s), predominantly second home	A resort lifestyle community	<ul style="list-style-type: none"> • Desert Mountain, Arizona • Hualalai, Hawaii
Active Adult Communities	Age-restricted with central facilities for fostering resident interaction and lifestyle	A retirement lifestyle community	<ul style="list-style-type: none"> • Sun City, Arizona • Sun City, Nevada
New Urbanist Developments	Garages loaded from rear, street-separated sidewalks, fine-grain mixed use	A traditional village	<ul style="list-style-type: none"> • Seaside, Florida • Kentlands, Maryland
Conservation Developments	Conserved open space focus, typically under conservation trust	A rural hamlet	<ul style="list-style-type: none"> • Spring Island, South Carolina • Prairie Crossing, Illinois

prices.

Successful planning and development maximizes and preserves long-term value and has a positive impact on

the cost of providing public services, including public schools. Generally, as one moves through the spectrum from a subdivision to a master planned community, the value increases.

TABLE 32. SPECTRUM OF RESIDENTIAL PLANNING



The table below shows the average savings in infrastructure costs, road construction, utility installation, housing cost and economic impact over typical unplanned subdivisions in a study of developments in New Jersey, Kentucky, and Delaware. The master planned community's design of open space and compact community design equates to a 20% to 45% reduction in the amount of land used as compared to other forms of development. This translates to a 15% to 25% reduction in infrastructure costs and 7% to 15% reduction in outlays for water and sewer lines.

TABLE 33. EXAMPLES IN SAVINGS FOR VARIOUS DEVELOPMENTS

<i>Project Site in...</i>	<i>New Jersey</i>	<i>Kentucky</i>	<i>Delaware</i>
Developable Land	43.50%	24.20%	20.50%
Infrastructure Costs			
Roads (Local)	25%	14.80%	19.70%
Utilities (Water/Sewer)	15%	8.20%	6.70%
Housing Costs	5%	2%–3%	8.40%
Fiscal Impacts	2%	N/A	6.90%

Source: Lincoln Institute of Land Policy

The following tables compare residential housing sale prices for planned community projects to their greater MSA area. Homebuyers typically pay a 15% to 25% premium for homes in master planned communities. Research found that buyers prefer neighborhoods with more connective street networks; more streets; shorter, dead-end streets, more and smaller blocks; better pedestrian accessibility to commercial uses; more evenly distributed land uses in the neighborhood; and proximity to operating light rail stations.¹⁰

Master planned communities succeed by adding value to the land financially, socially, and environmentally. A clear vision and well-designed master plan are critical in securing maximal value from the land. However, it is important to note that master planned communities have significant up-front costs and greater difficulty accessing capital. Master planned communities also typically require a longer timeline for development, making them a greater risk than any single-use project.

¹⁰ Clarion Associates, Economics Research Associates. *Growing Smarter at the Edge*. City of Tucson, Lincoln Institute of Land Policy, Sonoran Institute. 2005.

TABLE 34. MARKET TO PROJECT COMPARISON: RESIDENTIAL FOR-SALE HOUSING

<i>Planned Community</i>	<i>Project: Average</i>	<i>MSA: Average</i>	<i>Average</i>
Project	Price Per SF	Price Per SF	Of MSA
Hidden Springs	\$126.23	\$80.63	157%
Summerlin	\$154.53	\$125.00	124%
Verrado	\$107.93	\$94.00	115%
Vistancia	\$90.07	\$94.00	96%
DC Ranch	\$280.68	\$94.00	299%
Otay Ranch	\$202.00	\$200.00	101%
Ranch Sahuarita	\$88.21	\$93.33	95%
San Elijo Ranch	\$256.15	\$200.00	128%
North City Future Urbanizing Area	\$283.79	\$200.00	142%

Source: Economics Research Associates

Master Planned Communities and Demand

Over the next twenty-five years the United States will grow by almost 58 million people and 70% to 90% of near-term growth is predicted to be on previously undeveloped land.¹¹ According to research done by the Sasaki Team, national trends point to an increasing demand for master planned communities with 15% to 30% of homebuyers looking for walkable, compact neighborhoods — especially empty nesters and retirees.¹² About 50% of new home buyers would prefer communities with housing, retail and services all within walking distance.

Master planned communities will comprise 20% to 30% of all new residential construction by the year 2015. Oriented to affluent community and professionals, its strongest market segment consists of single, young professionals and older couples without children at home. This segment is growing throughout the United States and in the Minneapolis-St. Paul metro area.

¹¹ Heid, Jim. *Greenfield Development Without Sprawl: The Role of Planned Communities*. Washington, D.C.: ULI – Urban Land Institute, 2004.

¹² Economics Research Associates. *Amalthea Mews*: Westerville, Ohio. 16625. Chicago. 2006

TABLE 35. PROJECT PERFORMANCE—RESIDENTIAL FOR-SALE HOUSING

	Hidden Springs	Summerlin	Verrado	Vistancia	DC Ranch	Otay Ranch	North City Future Urbanizing Area	San Elijo Ranch	Ranch Sa-huarita
Total # of Units	1,035	64,000	9,500	17,000	5,000	18,000	13,000	3,398	10,600
Range (price per sf)	\$108.69 - \$221.58	\$101.54 - \$216.46	\$91.26 - \$135.88	\$83.91 - \$143.76	\$200.30 - \$602.16	\$174.99 - \$278.55	\$235.00 - \$428.00	\$178.21 - \$329.78	\$76.48 - \$103.59
Average Price per sf	\$126.23	\$154.53	\$107.93	\$90.07	\$280.68	\$202.00	\$283.79	\$256.15	\$88.21
Premium for Units Fronting Open Space or Golf Course		\$5,000.00 - \$150,000.00	\$4,000.00 - \$25,000.00	\$1,000.00 - \$20,000.00	\$6,000.00 - \$100,000.00	\$10,000.00 - \$50,000.00	\$20,000.00 - \$80,000.00	\$10,000.00 - \$90,000.00	\$75,000+
Annual Absorption Rate Since Opening		656	150	NA	152	880	69	192	1,235

Source: Economics Research Associates

MODEL AND MODEL ASSUMPTIONS

Based on discussions with the steering committee regarding University goals and potential outcomes, the Sasaki Team tested three development options.

Scenario A - “Hold Land without Development” – the University would increase investment in UMore Park over the next ten years by removing dilapidated structures, remediating site contamination and extracting value from the gravel pits. It would continue its research and commercial leasing of the site and engage in a long-range planning process for the site.

Scenario B - “Sell Land at Wholesale Prices” – the University would subdivide the property into large parcels of land and sell it as quickly as possible. The purchasers of the large land tracts (assumed to be at least 300 acres) would determine future use and pursue approvals. It is likely that they would develop low-density residential neighborhoods. All existing University research and commercial leases would be terminated.

Scenario C - “Develop a New Community” –the University will develop a master plan, establishing the design details to inspire decision making, capital investment and guide development to construct the vision for UMore Park described in this plan Scenario three, “Master Plan Community” calls on the University to create a master plan of sufficient detail and advance site preparation to attract a master developer(s) to aid in its execution. In this scenario the University offers its land, its name and intellect as integral to the identity of the site, and may provide financial mechanism to access capital in a preferential way. The master developer provides the wisdom of their experience in developing a master plan, securing approvals, developing the land, and through their independent access to capital.

Scenario Assumptions

Practical timeframes were used to test the scenarios. Ten years was selected for Scenario A—an ample time for the University to ready the land for development and plan for entering the real estate market at a higher price point for sale of land. Twenty-five years for Scenario B—after a significant level of absorption has taken place. And, twenty-five years for Scenario C, to the time in which most of the land is fully developed as a master planned community.

TABLE 36. INITIAL ASSUMPTIONS

Base Assumptions			
Current Year	2006		
Beginning Year	2010		
Years in Analysis	25		
End Year	2034		
		Scenario A	Scenario B
Net Developable Acres		3,729	3,729
			Scenario C
			3,729
Inflation	3%		

Residential Assumptions

The following information, in addition to other demographic analyses in this document, helped generate assumptions which led to estimates for residential unit capture and absorption. Several market areas were analyzed to understand the nuances of the overall market, including the seven-county metro area, Dakota County, the City of Rosemount, and the site’s three-county primary market area of Dakota, Scott, and Washington Counties.

Using projections provided by the Metropolitan Council, the Sasaki Team estimated the number of new households added to the market over the last few years as well as forecasted growth for future decades.

Permit and household data were used to predict total permits per new household. The higher permits per new household (indicating more robust residential construction) in recent years is not likely to keep pace due to probable decline in housing construction (due to recent strong additions to housing stock compared to household growth and other factors like rising interest rates). The Sasaki Team anticipates that long run estimates will be more in line with longer-run historic patterns.

Similarly, the ratio of single-family units to total units was assessed to determine the unit mix for the proposed development. Estimates during the period of analysis are highlighted in gray. Because of changing household characteristics (particularly with an aging population), the Sasaki Team believes that a greater variety of housing types will be demanded in the long run.¹³ For this reason, a slightly smaller percentage of new units are estimated to be single-family in future decades, with estimates in the first five years of the analysis following trends from recent years.

Using this information, the Sasaki Team estimated long-term (by decade) annual projections for single-family and multi-family housing units for several markets. The analysis multiplied the number of new households by building permits and multiplied the result by the percentage of single-family units to arrive at a breakdown, by decade, of single-family and multi-family units.

TABLE 37. NET NEW HOUSEHOLDS – HISTORIC AND PROJECTED

New Households	2000-2001	2001-2002	2002-2003	2003-2004	2004-2010	2010-2020	2020-2030
7-Cty Area	14,620	17,779	13,600	13,570	132,777	172,400	126,900
Dakota County	2,815	3,287	2,713	3,518	18,506	28,800	18,310
Rosemount	255	292	282	433	1,996	3,200	2,300
3-Cty Area	7,167	7,993	6,446	7,915	51,203	74,505	54,273

TABLE 38. TOTAL PERMIT (UNITS) PER NEW HOUSEHOLDS – HISTORIC AND PROJECTED

Total Permit (Units) Per New Household	2001	2002	2003	2004	2004-2010	2010-2020	2020-2030
7-Cty Area	1.1	1.1	1.5	1.5	1.1	1.0	1.0
Dakota County	1.1	1.1	1.5	1.0	1.3	1.0	1.0
Rosemount	1.2	1.1	1.6	1.3	1.2	1.1	1.0
3-Cty Area	1.0	0.9	1.4	1.1	1.1	1.0	1.0

TABLE 39. % SINGLE FAMILY OF TOTAL UNITS

% Single Family of Total Units	2001	2002	2003	2004	2005-2010	2010-2020	2020-2030
7-Cty Area	70%	61%	68%	66%	63%	62%	61%
Dakota County	72%	63%	65%	61%	66%	65%	64%
Rosemount	100%	72%	76%	75%	75%	73%	71%
3-Cty Area	77%	72%	77%	79%	78%	76%	74%

¹³ The Appendix contains information on the aging population, and retirees in particular.

TABLE 40. RESIDENTIAL ANNUAL PROJECTIONS

Single Family Units	1990	2000	2001	2002	2003	2004	Units: Annual Projections		
							2005 to 2010	2010 to 2020	2020 to 2030
7-Cty Area	9,279	12,260	11,786	11,989	14,069	13,876	15,340	10,690	7,740
Dakota Cty		2,383	2,274	2,278	2,722	2,189	2,650	1,870	1,170
Rosemount		285	295	238	335	411	300	260	160
3-Cty Area		6,154	5,560	5,304	7,094	6,618	7,320	5,660	4,020
Multi Family Units		2000	2001	2002	2003	2004	2005 to 2010	2010 to 2020	2020 to 2030
7-Cty Area		4,790	5,002	7,793	6,505	7,053	9,010	13,100	9,900
Dakota Cty		783	897	1,313	1,464	1,372	1,360	2,020	1,320
Rosemount		0	0	92	105	140	100	190	130
3-Cty Area		1,445	1,634	2,057	2,085	1,738	2,070	3,580	2,820
Total Building Permits (Units)		2000	2001	2002	2003	2004	2005 to 2010	2010 to 2020	2020 to 2030
7-Cty Area	13,599	17,050	16,788	19,782	20,574	20,929	24,350	23,790	17,640
Dakota Cty		3,166	3,171	3,591	4,186	3,561	4,010	3,890	2,490
Rosemount		285	295	330	440	551	400	450	290
3-Cty Area		7,599	7,194	7,361	9,179	8,356	9,390	9,240	6,840

The following residential assumptions were used to determine the absorption and capture rates for the UMore Park site, focusing on the three-county primary market area:

- Gross densities at build out will be slightly higher in Scenario C due to higher absorption rate for higher-density owner and renter-occupied multi-family development. Densities for three types of residential development were used to estimate land absorption. They are:
 - » Single-family – 3.3 units per acre
 - » Owner-Occupied Multi-Family – 10.9 units per acre
 - » Renter-Occupied Multi-Family – 28.8 units per acre
- Capture rates for Dakota County and the remaining three-county area are estimated by assuming that a certain level of development will be taking place in these market areas over the years. As the development matures, the site’s capture rates are anticipated to increase because there will be fewer developments of this scale and UMore Park’s market appeal will increase.
 - » Based on the location of the property, recent demand indicators and the Sasaki Team’s experience with comparable mixed-use developments, the study forecasts that UMore Park will attract 5% to 10% of the Dakota County market in the short-term, and a smaller percentage of the remaining three-county area (2% to 3%).
- In Scenario C, it is assumed that University involvement with the site will increase absorption and capture rates. Also, the development will likely become attractive not only to the three-county market area but households outside this area.
 - » Based on the location of the property, recent demand indicators and the Sasaki Team’s experience with comparable mixed-use developments, the study forecasts that UMore Park will attract up to 6.5% to 13% of the Dakota County market in the short-term, and a smaller percentage of the remaining three-county area (2.6% to 3.9%). It is also likely that a higher percentage of the site’s residents will come from outside the three-county area because this site will be more unique and marketable due to University involvement.
- One likely market niche in Scenario C would be U of M alumni. 10% of U of M living alumni live within the three-county market area and over half of alumni are in the seven-county metro area (see table). The Sasaki Team believes this will augment the UMore Park market in Scenario C.

TABLE 41. LIVING ALUMNI IN THREE-COUNTY AREA BY AGE

3-Cty Area	Living Alumni	% Alumni in Age Category
21-35	6,542	18%
35-44	9,338	26%
45-54	9,900	27%
55-64	7,138	20%
65-74	1,913	5%
75+	1,410	4%
All	36,241	100%

Source: U of M Alumni Zip Code Data

Because Scenario C development will likely attract households from beyond the three-county market, the Sasaki Team estimates an additional percentage of household demand from outside the three-county market area.

With the previous assumptions, absorption is estimated for the UMore Park site for single-family; multi-family, owner-occupied; and multi-family, renter-occupied units. These numbers are the basis of the Sasaki Team’s residential assumptions for the financial model. Annual absorption estimates are as follows:

Scenarios A and B follow similar absorption periods once land starts coming online for development. Estimated annual absorption is:

- Single-family Units – 200 to 225 units annually
- Owner-Occupied Multi-Family Units – 100 to 130 units annually
- Renter-Occupied Multi-Family Units – 75 to 85 units annually

Scenario C has higher estimated absorption rates because University involvement in creating an identity for the site will generate more market interest in the site. Estimated annual absorption is:

- Single-family Units – 280 to 315 units annually
- Owner-Occupied Multi-Family Units – 125 to 165 units annually
- Renter-Occupied Multi-Family Units – 125 to 135 units annually

Retail

Retail demand was estimated by considering the square footage of retail demanded from off- and on-site demand. (On-site demand is from development’s residents). Off-site demand was estimated by calculating the ratio of retail GLA (gross leasable area) per capita for three market areas (Dakota County, the three-county area, and the seven-county metro area) and assigning a capture rate to these markets. The following table shows retail GLA demanded for these market areas. Note that the average national GLA per capita is about twenty so the additional GLA for each market was estimated by looking at the population change and multiplying by the national GLA per capita figure.

Capture assumptions were used to estimate aggregate retail demand. The Floor to Area ratio (FAR) is used to determine the acreage required to develop the amount of retail demanded, and is estimated to be 0.25.

Dakota County, received the highest capture rate of the three market areas. Based on the Sasaki Team’s experience with retail development capture, the Sasaki Team used the following capture rates by market area.

- Dakota County - 5% to 7% in Scenarios A and B and 6% to 8% in Scenario C. Because there is no anticipated large-scale retail, this capture is relatively small.
- Three-County Area (Not including Dakota County) – 1% in Scenarios A and B and 1.2% in Scenario C.
- Seven-County Area (Not including three-county area) – 0.25% in Scenarios A and B and 0.3% in Scenario C.

The Sasaki Team has been conservative when calculating retail market capture because other major retail developments are in the planning stage in Dakota County and the UMore Park site does not offer strong highway access. However, in Scenario C there is a greater opportunity to provide service-related retail in a master-planned community, which is reflected in higher capture rates under this scenario.

TABLE 42. ESTIMATED GROSS LEASABLE AREA (GLA) FOR IDENTIFIED AREAS

	Population	Current (2004) Shopping Center GLA	GLA per person	Variation from National GLA per person	Additional GLA Needed to Reach National Benchmark of 20 sf/person	Additional GLA Needed to Maintain 18 GLA per capita for the 7-County Area
2004						
Dakota County	383,076	6,038,995	15.8	4.24	1,620,000	860,000
3-County Area	713,134	10,665,326	15.0	5.04	3,600,000	2,170,000
7-County Area	2,771,030	48,924,063	17.7	2.34	6,500,000	950,000
Minnesota	4,958,748	74,854,497	15.1	4.90	24,320,000	14,400,000
United States	285,691,501	5,953,124,123	20.8	-0.84	-239,294,103	-810,677,000
2010						
Dakota County	421,960	6,038,995	14.3	5.69	780,000	700,000
3-County Area	828,302	10,665,326	12.9	7.12	2,300,000	2,070,000
7-County Area	3,056,100	48,924,063	16.0	3.99	5,700,000	5,140,000
2020						
Dakota County	480,150	6,038,995	12.6	7.42	1,160,000	1,040,000
3-County Area	990,093	10,665,326	10.8	9.23	3,240,000	2,920,000
7-County Area	3,430,100	48,924,063	14.3	5.74	7,480,000	6,730,000
2030						
Dakota County	517,010	6,038,995	11.7	8.32	740,000	670,000
3-County Area	1,104,250	10,665,326	9.7	10.34	2,280,000	2,050,000
7-County Area	3,692,600	48,924,063	13.2	6.75	5,250,000	4,720,000

For on-site retail demand, the Sasaki Team considered consumer expenditure information for households to estimate retail GLA demanded. The following table shows these expenditure assumptions that were used for on-site residents.

Average annual sales per square foot (based on the Sasaki Team’s experience with retail around the country) of \$400 (2006 dollars) and capture rates of 15% for Scenarios A and B and 18% for Scenario C were used for on-site retail demand. Capture rates are higher for on-site residents than off-site residents because, by definition, on-site residents

will be near this retail on a daily basis and will use it for everyday purchasing.

Total on-site and off-site retail absorption is as follows:

- Scenarios A and B – 53,000 to 73,000 square feet of GLA annually
- Scenario C – 63,000 to 97,000 square feet of GLA annually

TABLE 43. EXPENDITURE ASSUMPTIONS TO ESTIMATE RETAIL GLA DEMANDED

Consumer Expenditure Survey Information - 2005 Information	
Median Expenditures per Household -	\$64,179
% of Expenditures	
Food at Home	5%
Food away from Home	4%
GAFO	12.5%
GAFO - For Day-Time Population C	3%
Entertainment	5%

Source: Bureau of Labor Statistics Consumer Expenditure Survey

Office, Industrial, and Institutional

The following assumptions are used to estimate square footage and land usage for office development. Please note that this applies to speculative development.

- Floor to Area Ratio (FAR) is 0.25 for office development.
- Absorption rates are 25,000 square feet annually for Scenarios A and B. This number was selected after analyzing the dynamics of the office market and UMore Park's likely participation. The site is not ideal for large-scale office development and the office market overall has been relatively weak in the Minneapolis-St. Paul metro market.
- Absorption rates are 30,000 square feet annually for Scenario C. The University's involvement in Scenario C is anticipated to increase annual absorption for office space.

There may be additional opportunities for "lightning to strike" office development at the site, which would result in a greater share of the site being used as office. This opportunity is greatest in a master-planned community because a unique living environment could attract employers who want to be near such a community and employees who like the concept of being close to work. If this occurs, it will impact the extent of development of other development components (residential, retail, etc.) Given competitive sites and the competition to secure planned office development, this opportunity potential appears to be limited.

The following assumptions are used to estimate square footage and land usage for industrial development. Please note that this applies to speculative development.

- Floor to Area Ratio (FAR) is 0.25 for office development.
- Absorption rates are 25,000 square feet annually for industrial space in Scenarios A and B and about 28,000 square feet annually in Scenario C. The Sasaki Team believes that light industrial particularly could be a good buffer for development on the north-east corner of the greater UMore Park site.

- Land assigned for institutional uses will use eleven institutional acres per residential acre developed according to regional trends.

Absorption rates for industrial development were selected after analyzing the dynamics of the industrial market and UMore Park's likely participation. The site is not ideal for industrial development particularly regarding the envisioned large residential component as well as understanding that most industrial development will want to take place at easy access points along major transportation routes.

Again, there could be opportunities for additional industrial development beyond the speculative development estimated here – for example, an air cargo facility would impact the speed at which industrial land gets developed at UMore Park. The Sasaki Team's financial model uses the conservative, market-driven demand estimates.

Overall Conclusions

Land Absorption By Scenario

The following table uses these assumptions to estimate acres that will be absorbed in five year increments under each development scenario. This shows that Scenarios A and B follow similar absorption trends under current market conditions, though absorption in Scenario A does not begin until Year 2016 in the analysis (which is also about 10 years from now under the Land Bank scenario), while absorption in Scenarios B and C begins in 2010. Scenario C shows faster absorption for reasons discussed previously: a master planned community with university involvement has greater opportunities to create its own market niche in the market

place compared to that of a standard development. A master planned community with university connections not only has an opportunity to attain a higher market share (i.e. faster absorption), but also an opportunity to create a higher-density community in an area that otherwise may not buy into that concept.

The following table shows the number of acres absorbed in a twenty-five year period as well as at full development. Note that the rate of absorption in Scenario C leads to a build out in a considerably faster time period for the site. The total acres used in Scenario A is lower because absorption does not start until 2016 while the University holds the land, compared to absorption starting in 2010 for the other scenarios.

TABLE 44. ESTIMATED LAND ABSORPTION BY SCENARIO

Scenario A							
Residential		0	416	377	367	367	1,527 % of Residential
	Single Family	0	342	314	307	307	1,269 83%
	Mid-Density	0	60	49	47	47	202 13%
	High-Density	0	15	14	13	13	55 4%
Commercial		0	30	28	28	29	115 % of Commercial
	Retail	0	7	5	5	6	23 20%
	Office	0	11	11	11	11	46 40%
	Industrial	0	11	11	11	11	46 40%
Institutional		0	38	34	33	33	139
Total Acres		0	484	439	428	429	1,781

Scenario B							
Residential		410	416	377	367	367	1,937 % of Residential
	Single Family	342	342	314	307	307	1,611 83.2%
	Mid-Density	54	60	49	47	47	256 13.2%
	High-Density	14	15	14	13	13	69 3.6%
Commercial		28	30	28	28	29	143 % of Commercial
	Retail	5	7	5	5	6	28 20%
	Office	11	11	11	11	11	57 40%
	Industrial	11	11	11	11	11	57 40%
Institutional		37	38	34	33	33	176
Total Acres		475	484	439	428	429	2,255

Scenario C							
Residential		569	578	522	508	508	2,685 % of Residential
	Single Family	478	478	439	429	429	2,252 83.9%
	Mid-Density	70	76	61	57	57	322 12.0%
	High-Density	21	24	22	22	22	110 4.1%
Commercial		32	35	34	34	34	169 % of Commercial
	Retail	6	9	7	7	8	37 22%
	Office	14	14	14	14	14	69 41%
	Industrial	13	13	13	13	13	63 37%
Institutional		52	53	47	46	46	244
Total Acres		653	666	603	588	588	3,098

TABLE 45. LAND ABSORPTION BY SCENARIO – 25 YEARS AND AT FULL DEVELOPMENT

Market Scenarios	After 25 years		At Full Development			
	Acres Used in 25 Years	Acres Remaining after 25 Years	Total Developed Acres	Gross Acres	Gross DU/Acre	Years to Buildout
Scenario A	1,781	1,948	3,729	4,950	3.36	48
Scenario B	2,255	1,474	3,729	4,950	3.36	42
Scenario C	3,098	631	3,729	4,950	3.43	30

The following table shows breakouts of residential units, and square footage for commercial components as well as estimated site population upon full development under each scenario. An average household size of 2.5 was used to estimate the population.

TABLE 46. SITE CHARACTERISTICS AT FULL DEVELOPMENT BY SCENARIO

Market Scenarios	At Full Development								
	# SF Units	# Mid-Density Units	# High Density Units	Total Res. Units	Estimated Pop.	Institutional Acres	S.F. - Retail	S.F. - Office	S.F. - Industrial
Scenario A	8,800	4,500	3,300	16,600	41,600	290	517,000	1,054,000	1,054,000
Scenario B	8,800	4,500	3,300	16,600	41,600	291	517,000	1,054,000	1,054,000
Scenario C	9,000	4,200	3,800	17,000	42,400	294	496,000	911,000	911,000

Land Values

Market values in this study recognize that this large site has varying access to the wastewater line on the west edge of the property. For this reason, land values on the west side of the property will be higher because of their direct access to this line. Land towards the southeast corner of the site has less immediate accessibility so land value will not be as high as land on the west side. The estimated current value of land under these scenarios (assuming the baseline concept plan for the site is accepted by the Met Council and that there is direct access to wastewater treatment lines on the west side of the property) is \$31,000 per acre, which is a weighted average of land values reflecting various levels of accessibility to the wastewater line on the west boundary. Potential contamination issues associated with the site are not considered in this value - a detailed environmental assessment will help assess potential impact on value from contamination, which could diminish the value somewhat.

The estimated value of the land was derived from a weighted average of land values across the property. Values are based on current land sales near the site. (Please see the Land Values Section for details.)

Hold Land without Development (Scenario A)

In Scenario A, it is estimated that land is forecast to appreciating at a rate of 4% annually. Real estate contacts in the area suggest appreciation may be higher in recent years, however the Sasaki Team believes 4% is a more realistic appreciation rate in the long run. An appreciation rate of 4% applied to a current value of \$31,000 per acre results in an estimated value per acre of about \$45,000 in Year 10 of the analysis. In addition to the land value there are aggregate mining and concrete recycling opportunities (estimated at between \$14 and \$21 million), but these income-generating activities could be conducted over all three scenarios if planned accordingly.

Sell Land at Wholesale Prices (Scenario B)

Demand for land reflects either developer's perceptions of market-driven demand; or speculator's expectation of appreciation. In this scenario, there is no University involvement in the process, and demand for land would be based on continued household growth and construction of housing products similar to what is now being built (and commercial / industrial sales that reflect the locational character for the site). The value that bulk purchasers would be willing to pay is expected to be comparable to actual sales activity in the area – and reflecting a discount for larger parcels. Current land values are estimated at \$31,000 per acre.

Develop a New Community (Scenario C)

Case study / literature research indicates that master planned communities have higher market values and typically stronger sales / leasing activity compared to unplanned subdivisions and other growth. This scenario creates sales forecasts for incremental value to the University in several ways. The University's involvement in a sustainable environment that offers health, education and recreational amenities will “grow” market demand and thus increase sales velocity and will enhance the potential to create a more dense, planned development that optimizes land use and land value. This essentially gives UMore Park a market share that is larger than the previous scenario, given the quality of the product. Second, the University can become an equity partner and share in the “upside” of development, or the developer's profits. Finally, there is the chance to leverage other revenue streams such as transfer fees as has been done in the redevelopment of Stapleton Airport in Denver.

In Scenario C, it is assumed that the land value incorporates trunk-level infrastructure and basic land improvements as well as entitlement changes that allow the land to be developed according to a master plan. Because there are

so many undetermined variables in Scenario C (the nature of the relationship between the University and a potential nationwide developer, the details of the level of university involvement at the site, and the level of detail of a master plan for the community, to name a few), it is difficult to estimate a value for this scenario at this time.

For UMore Park the retail value (the value of land prepared for development) is calculated at 3 to 5 times the current value of \$31,000 an acre. Based on the Sasaki Team's experience as well as published research on enhanced values from master planned communities, the added value in developing master planned communities can add 30% above the assumed retail value of land. This results from a combination of 20% to 45% reduction in the amount of land used, 15% to 25% reduction in infrastructure costs and 7% to 15% less outlays for water and sewer lines from increased density typical of master plans. These estimates of value are distinct from any assessment of cost of providing infrastructure and amenities.

The degree to which a master plan impacts the value of a site is based on financial, social, and environmental factors. A clear vision and well-designed master plan are critical in securing maximal value from the land – establishing development rights and selling raw land at a higher value than the sum of the purchase price and/or other investments. There is a continuum of value dependent on the level of planning that is ultimately reflected in the three scenarios.

Raw Land (Agricultural Value → Development Ready Land → Development Ready Master Plan

Lowest Value to University → Highest Value to University

Consequently, there is also a continuum of risk dependent on the level of planning. However, the risk can be mitigated by having a well-thought, well-executed plan. This is possible if the University partners with a nationwide developer that is an expert in executing large-scale, planned communities.

ADDENDUM

General Limiting Conditions

Every reasonable effort has been made to ensure that the data contained in this study reflect the most accurate and timely information possible, and they are believed to be reliable. This study is based on estimates, assumptions and other information developed by Economics Research Associates from its independent research effort, general knowledge of the industry, and consultations with the client and the client's representatives. No responsibility is assumed for inaccuracies in reporting by the client, the client's agent, and representatives or any other data source used in preparing or presenting this study. No warranty or representation is made by Economics Research Associates that any of the project values or results contained in this study will actually be achieved.

Possession of this study does not carry with it the right of publication thereof or to use the name of "Economics Research Associates" in any manner. No abstracting, excerpting, or summarization of this study may be made. This study is not to be used in conjunction with any public or private offering of securities or other similar purpose where it may be relied upon to any degree by any person other than the client. This study may not be used for purposes other than that for which it is prepared. Exceptions to these restrictions may be permitted after obtaining prior written consent from Economics Research Associates. This study is qualified in its entirety by, and should be considered in light of, these limitations, conditions and considerations.

DEMOGRAPHIC TABLES

Average Household Size			
County	2000-2010	2010-2020	2020-2030
Dakota	1.5	1.3	1.2
Hennepin	1.2	1.2	1.1
Ramsey	1.1	1.1	1.1
Anoka	1.5	1.3	1.2
Carver	2.2	2.0	1.7
Scott	1.6	1.3	1.1
Washington	1.2	1.2	1.2
Source: U.S. Census & Metropolitan Planning Council			

Projected Population Forecast by County

Source: U.S. Census & Metropolitan Planning Council

	1960	1970	1980	1990	2000	2010	2020	2030
Dakota	78,303	139,808	194,279	275,227	355,904	416,790	478,110	512,670
CAGR*		6.0%	3.3%	3.5%	2.6%	1.6%	1.4%	0.7%
Hennepin	842,854	960,080	941,411	1,032,431	1,116,206	1,213,600	1,309,630	1,384,800
CAGR		1.3%	-0.2%	0.9%	0.8%	0.8%	0.8%	0.6%
Ramsey	422,525	476,255	459,784	485,765	511,035	547,700	570,860	598,900
CAGR		1.2%	-0.4%	0.6%	0.5%	0.7%	0.4%	0.5%
Anoka	85,916	154,712	195,998	243,641	298,084	355,170	393,010	410,760
CAGR		6.1%	2.4%	2.2%	2.0%	1.8%	1.0%	0.4%
Carver	21,358	28,331	37,046	47,915	70,205	104,470	138,720	174,630
CAGR		2.9%	2.7%	2.6%	3.9%	4.1%	2.9%	2.3%
Scott	21,909	32,423	43,784	57,846	89,498	145,640	189,700	215,370
CAGR		4.0%	3.0%	2.8%	4.5%	5.0%	2.7%	1.3%
Washington	52,432	83,003	113,571	145,896	201,130	244,732	296,693	342,620
CAGR		4.7%	3.2%	2.5%	3.3%	2.0%	1.9%	1.4%
CAGR		1960-70	1970-80	1980-90	1990-2000	2000-10	2010-20	2020-30
Dakota		6.0%	3.3%	3.5%	2.6%	1.6%	1.4%	0.7%
Hennepin		1.3%	-0.2%	0.9%	0.8%	0.8%	0.8%	0.6%
Ramsey		1.2%	-0.4%	0.6%	0.5%	0.7%	0.4%	0.5%
Anoka		6.1%	2.4%	2.2%	2.0%	1.8%	1.0%	0.4%
Carver		2.9%	2.7%	2.6%	3.9%	4.1%	2.9%	2.3%
Scott		4.0%	3.0%	2.8%	4.5%	5.0%	2.7%	1.3%
Washington		4.7%	3.2%	2.5%	3.3%	2.0%	1.9%	1.4%

Projected Household Forecast by County

Source: U.S. Census & Metropolitan Planning Council

	1980	1990	2000	2010	2020	2030
Dakota	64,087	98,293	131,151	160,650	190,300	208,510
CAGR*	N/A	4.4%	2.9%	2.0%	1.7%	0.9%
Hennepin	365,536	419,060	456,131	504,920	550,610	585,680
CAGR	N/A	1.4%	0.9%	1.0%	0.9%	0.6%
Ramsey	170,505	190,500	201,236	219,170	231,670	246,290
CAGR	N/A	1.1%	0.5%	0.9%	0.6%	0.6%
Anoka	60,716	82,437	106,428	130,980	153,980	163,610
CAGR	N/A	3.1%	2.6%	2.1%	1.6%	0.6%
Carver	12,011	16,601	24,356	39,410	53,090	68,510
CAGR	N/A	3.3%	3.9%	4.9%	3.0%	2.6%
Scott	13,501	19,367	30,692	53,460	73,500	85,890
CAGR	N/A	3.7%	4.7%	5.7%	3.2%	1.6%
Washington	35,088	49,246	71,462	93,949	116,834	138,117
CAGR	N/A	3.4%	3.8%	2.8%	2.2%	1.7%
CAGR		1980-90	1990-2000	2000-10	2010-20	2020-30
Dakota		4.4%	2.9%	2.0%	1.7%	0.9%
Hennepin		1.4%	0.9%	1.0%	0.9%	0.6%
Ramsey		1.1%	0.5%	0.9%	0.6%	0.6%
Anoka		3.1%	2.6%	2.1%	1.6%	0.6%
Carver		3.3%	3.9%	4.9%	3.0%	2.6%
Scott		3.7%	4.7%	5.7%	3.2%	1.6%
Washington		3.4%	3.8%	2.8%	2.2%	1.7%

CURRENT AND PLANNED DEVELOPMENT CONTACTS LOCAL AREA

City of Rosemount

Name: Kim Lindquist
Title: Director of Community Development
Phone: 651.322.2020
E-mail: kim.lindquist@ci.rosemount.mn.us

Empire Township

Name: Bill Wustenberg
Title: N/A – Empire Township Planning
Commission
Phone: 651.460.3330

City of Farmington

Name: Tina Schwanz
Title: Economic Development Specialist
Phone: 651.463.1861
E-mail: tschwanz@ci.farmington.mn.us

City of Lakeville

Name: Adam Kienberger
Title: Economic Development Specialist
Phone: 952.985.4420
E-mail: akienberger@ci.lakeville.mn.us

City of Apple Valley

Name: Tom Lovelace
Title: Director of Community Development
Phone: 952.953.2575
E-mail: commdev@ci.apple-valley.mn.us

City of Eagan

Name: Eric Slettedahl
Title: N/A – Community Development Office
Phone: 651.675.5685

City of Inver Grove Heights

Name: Thomas Link
Title: Director of Community Development
Phone: 651.450.2546
E-mail: tlink@ci.inver-grove-heights.mn.us

RETIREMENT TRENDS

To understand the trends associated with retirement at the national, state and county levels, it helps to begin by defining what retirement actually means. For the United States, retirement usually consists of two observable factors: nonparticipation in the paid labor force and receipt of monetary funds through pensions, Social Security, or other retirement plans. For example, a person who does not work for compensation and who receives benefits from some form of a retirement account would meet this definition.

As the generation born between 1946-1964 approaches retirement age, the proportion of the U.S. population age 65+ will rise from 12.4% to from 2005 to 20.3% in 2035 (U.S. Census 2003). The profiles of the economically active, however, are currently shifting towards older workers.

The following table highlights the Census Bureau's estimates for 2005 through 2035. These estimates provide a pretty good gauge as to how much the baby boom population will increase.

The Census Bureau estimates that the number of people ages 65+ will increase from about 37 million in 2005 to around 77 million in 2035. There is an anticipated annual growth rate of residents 65+ of 2.49% per year. This growth rate is considerable when comparing the growth rates of other age groups. No other age group, as the below table illustrates, comes close to matching this kind of growth.

Age Projections in the U.S. Population (in thousands)

Year	25 to 34	35 to 44	45 to 54	55 to 64	65 +	Total
2005	39,600	43,603	42,436	30,376	36,696	192,711
2035	47,548	46,296	45,584	39,397	76,641	255,466
CAGR	0.61%	0.20%	0.24%	0.87%	2.49%	

Source: U.S. Census 2003

Age Projections for Minnesota

Year	25 to 34	35 to 44	45 to 54	55 to 64	65 +	Total
2005	693,000	783,000	770,000	512,000	620,000	3,378,000
2035	788,000	839,000	814,000	675,000	1,370,000	4,486,000
CAGR	0.43%	0.23%	0.19%	0.93%	2.68%	

Source: Minnesota State Demographic Center

The following table exhibits Minnesota's projected population increase by age group.

The Minnesota State Demographic Center estimated that residents ages 65+ will increase from 620,000 residents in 2005 to about 1.4 million in 2035. The anticipated growth rate for the 65+age bracket is 2.68%, just slightly higher than the national average.

Migratory Trends

Migration is commonly defined as moving from one area to the next by crossing jurisdictional bounds (counties). In 2003, the Census Bureau released a study highlighting the migratory trends of different age brackets. The following table highlights some major findings of the Census study and the next couple of paragraphs will bring to the surface some of the major findings and its potential impact on Minnesota and the UMore Park Region. The following table defines Groups A, B, C, and D, which are referred to in this text.

for a resident to stay within the confines of UMore Park and thereby still generating revenues even though they now require additional help.

Among the groups ages 65 and above (Groups: B, C and D) the most common move was within the same county (59.7%). About 21.5% of this total group moved within the same county of the same state and 18.8% moved to a different state entirely. Within the Group B this group was slightly less likely to move within the same county 57.4%

MIGRATORY TRENDS IN THE UNITED STATES*

<i>Mobility Trends</i>	<i>Age 5 to 64</i>		<i>Age 65 and Over</i>			
	Total	Group A (55-64)	Total	Group B (65-74)	Group C (74-84)	Group D (85+)
Number	220,148,839	23,891,509	34,734,844	18,348,433	12,252,211	4,134,200
Non movers	115195595	17652103	26,831,885	14,462,754	9,568,507	2,800,624
Movers	104,953,246	6,239,406	7,902,959	3,885,679	2,683,704	1,333,576
Same County	60,720,000	3,557,862	4,719,418	2,248,962	1,655,197	815,259
Different County, Different State	23,630,000	1,346,423	1,697,327	813,174	564,679	319,474
Different State	20,603,246	1,335,121	1,486,214	823,543	463,828	198,843
Percent	Total	Group A (55-64)	Total	Group B (65-74)	Group C (74-84)	Group D (85+)
Non movers	52.3%	73.9%	77.2%	78.8%	78.1%	67.7%
Movers	47.7%	26.1%	22.8%	21.2%	21.9%	32.3%
Same County	57.9%	57.0%	59.7%	57.9%	61.7%	61.1%
Different County, Different State	22.5%	21.6%	21.5%	20.9%	21.0%	24.0%
Different State	19.6%	21.4%	18.8%	21.2%	17.3%	14.9%

Source: U.S. Census *Please note that these numbers have been condensed and some groups extracted due to non-germaneness

The mobility of Group D is one of the most interesting findings of the study. Group D is defined as ages 85+ and was found to have the highest mobility of any other age group. Between 1995 and 2000 about one-third or 32.3% of Group D moved. This is greater than the percentages of the three other age groups. What this implies is that as people get older, health concerns become more of an issue and this forces residents to move into areas where they can be closer to family and/or have assisted living facilities. The implication of continuum of care to UMore Park is that it might be advantageous to have both assisted living and non-assisted living on the premises. If both of the facilities were in close proximity to one another, this might make it easier

than Group C (61.7%) but much more likely to move to a different state 21.2% (Group C, 17.3%). Given the prospective strategy of having a university themed site, it is important to highlight this information a little further. Since most of the University of Minnesota's alumni reside in the state, it may sense to target a market segment within the retirement bracket. For instance, Group B may be more likely to leave the state but Groups C & D may offer market capture opportunities.

Group A (55 to 64) has general mobility patterns similar to those of the remaining groups. However a distinct characteristic still exists. Within Group A, this group was less likely to make an intracounty move (a move within the

same county) and more likely to move to a different state entirely. This is important to bring up in terms of targeting age groups before they decide on where to move. Presumably within Group A there are some who have already retired or on the cusp of retirement and looking for a prospective place to live. By catching them early on in the retirement cycle and there is a good possibility that this group would be willing to consider UMore Park. Further, out-of-state U of M graduates could be targeted.

Non-movers are defined as those individuals who stayed within their same household. For ages 65 and over, non-movers comprised 77.2% of the surveyed people. In other words, 77% of the population 65 and older did not change household addresses. This is of interest to UMore Park in the following ways. UMore Park might want to begin a gradual process to test retirement housing. (Second homes are not believed to be a strong target market).

The Census study also compiled data for each state detailing the migratory trends associated with their respective age brackets. The following table points out Minnesota's and its bordering state's migratory patterns. According to the Census, Immigration refers to the number of migrants who moved into an area (in this case, the state). Outmigration is the opposite: number of people who moved out and Net Migration is the difference between immigration and outmigration. With net migration, a negative value for net migration is indicative of net outmigration, more emigrants left an area than entered it. Positive numbers reflect the opposite.

IMMIGRATION, OUTMIGRATION AND NET MIGRATION

	<i>Minnesota</i>	<i>Wisconsin</i>	<i>Iowa</i>	<i>North Dakota</i>	<i>South Dakota</i>
<i>65 & Over</i>					
Inmigrants	14,923	19,046	10,843	2,402	4,084
Outmigrants	21,060	23,008	15,770	3,948	4,330
Net Migration	-6,137	-3,962	-4,927	-1,546	-246
<i>65 to 74</i>					
Inmigrants	6,567	9,164	5,073	1,271	2,159
Outmigrants	12,674	13,208	8,533	1,895	2,389
Net Migration	-6,107	-4,044	-3,460	-624	-230
<i>75 to 84</i>					
Inmigrants	5,210	6,347	3,457	711	1,284
Outmigrants	6,036	6,763	4,965	1,297	1,300
Net Migration	-826	-416	-1,508	-586	-16
<i>85+</i>					
Inmigrants	3146	3535	2313	420	641
Outmigrants	2350	3037	2272	756	641
Net Migration	796	498	298	-336	0

Source: U.S. Census

Minnesota, along with its bordering states, saw net migration decline from just about all age categories. In Minnesota, ages 64 to 74 saw about an average decline of about 6,100 residents. A high-quality retirement, living environment with health and education programming at UMore Park could have a limiting effect on this trend.

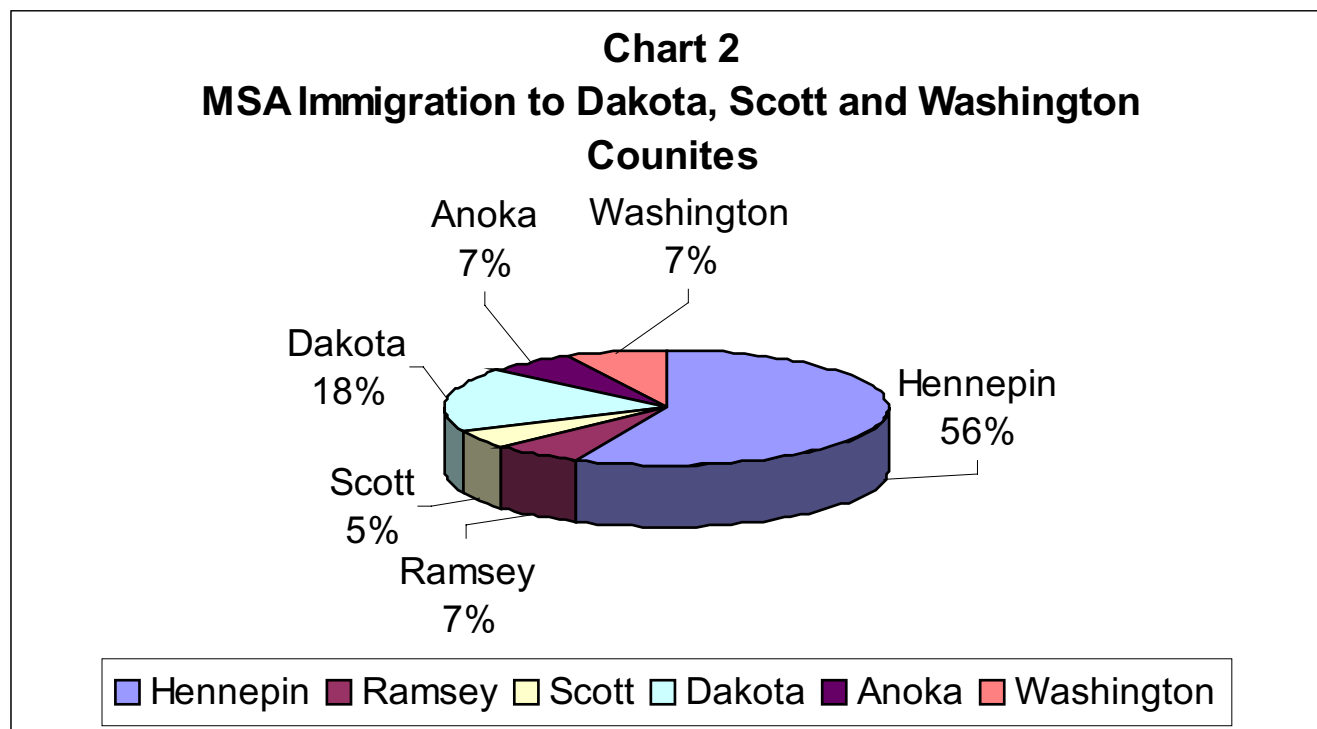
State Immigration to Dakota, Scott and Washington Counties

Using the targeted counties of Dakota, Scott and Washington Counties, the Sasaki Team has compiled data on the states which Dakota, Scott and Washington Counties receive most of their domestic immigration from.

72% of Dakota, Scott and Washington County inflows come from within Minnesota. The next biggest contributor is Michigan with 18%. West Virginia, Wisconsin and California send only a marginal number of people to the area with 3% and 4%, respectively.

MSA immigration to Dakota, Scott and Washington Counties

Dakota, Scott and Washington Counties receive most of its domestic immigrants from Hennepin County (56%). Dakota County is the next largest group with 18%. Washington, Anoka and Ramsey all send each send about 7% of its residents to our targeted areas. It might be interesting to highlight that Dakota, Scott and Washington all send a good share of residents to each other, which is, in part, why the Sasaki Team used the three-county area as the primary residential market in its analysis.



Source: U.S. Census

3.3 CONSIDERATION OF NATIONAL DEVELOPERS AND SUCCESSFUL DEVELOPMENT MODELS

The UMore Park Steering Committee met with two national developers who are interested in the UMore Park project and the opportunity to collaborate with the University of Minnesota to see this land developed as a community. The profile of each is detailed below:

	<i>Forest City Enterprises</i>	<i>Hines</i>
<i>Office Headquarters</i>	Cleveland, OH	Houston, TX
<i>Other Offices</i>	Boston, Chicago, Denver, Los Angeles, New York, San Francisco, Washington DC	85 offices in 15 countries, including Atlanta, Chicago, London, New York and San Francisco
<i>Mission Statement</i>	Forest City Enterprises is a national owner and developer of real estate, committed to building superior, long-term value for its shareholders and customers. We accomplish this through the operation, acquisition and development of commercial, rental housing and land development projects. We operate by developing meaningful relationships and leveraging our entrepreneurial capabilities with creative talent in a fully integrated real estate organization.	Hines is a privately owned, international real estate firm that has provided the highest level of quality, service and value to its clients and investors for nearly 50 years. With a presence in more than 85 cities around the globe and investor relationships with many of the world's largest financial institutions, Hines has the breadth of experience, the network of expertise and the financial strength to assume complex and challenging investment, development and management projects.
<i>Specialties</i>	Commercial, Residential, Mixed-Use and Land Development	Skyscrapers, corporate headquarters, mixed-use centers, industrial parks, medical facilities, and master-planned resort and residential communities
<i>Company Assets</i>	\$7.8 billion	\$11.7 billion
<i>Annual Revenues</i>	\$1 billion	unknown
<i>Public or Private?</i>	Public	Private
<i>Current Project Locations</i>	Focus on core metro areas of New York/Philadelphia, Boston, Washington DC, Baltimore, Denver and California; also growing market share in Chicago and Florida; working in 19 states in all	Working on projects across the US and the world
<i>Project Highlights</i>	Stapleton Airport redevelopment, Denver, CO; University Park at MIT, Cambridge, MA; Waterfront project, Washington, DC	The Galleria, Houston, TX; Embassy House, Beijing, China; Wortham Theater Center, Houston, TX
<i>Projects in Minnesota?</i>	No	Yes -- University of Minnesota TCF Bank Stadium, Wells Fargo Center, Twinsville, US Bank Center, 50 and 225 South Sixth St
<i>Website Address</i>	http://www.forestcity.net	http://www.hines.com/development

	<i>Steiner and Associates</i>	<i>McCaffery Interests</i>
<i>Office Headquarters</i>	Columbus, OH	Chicago, IL
<i>Other Offices</i>		Arlington, VA; Alexandria, VA; Minneapolis, MN
<i>Mission Statement</i>	Steiner + Associates specialize in the design, construction, leasing and marketing of new town centers with a master planning focus. Steiner brings its principled development approach to suburban locations, actively incorporates the ideals of New Urbanism and shares with both private and public sectors the responsibility for planned public spaces that are beautiful, commercially vital, universally accessible and always unforgettable.	McCaffery Interests, Inc., formed in 1991, targets investment in and the development or redevelopment of under performing, specialty urban real estate. The company is led by Daniel T. McCaffery within a structure that features economic participation and meaningful delegation of responsibility and accountability among the management team. To date, McCaffery Interests has successfully followed through on its mission and has acquired, developed and/or redeveloped nearly \$800,000,000 of outstanding real estate assets.
<i>Specialties</i>	"Town center" retail developments	Urban development and redevelopment; retail, office and residential projects
<i>Company Assets</i>	\$550 million	unknown
<i>Annual Revenues</i>	unknown	unknown
<i>Public or Private?</i>	Private	Private
<i>Current Project Locations</i>	Kansas City, MO; Milwaukee, WI; Hampton, VA; Dayton, OH	Myrtle Beach, SC; Pittsburgh, PA; Chicago, IL
<i>Project Highlights</i>	Easton Town Center, Columbus, OH; CocoWalk, Coconut Grove, FL; Centro Ybor, Ybor City, FL;	Georgetown Centre, Washington, DC; Hotel Burnham, Chicago, IL
<i>Projects in Minnesota?</i>	No	Yes -- Block E Minneapolis
<i>Website Address</i>	http://www.steiner.com	http://www.mccafferyinterests.com

The responsibilities, authority and reporting relationships real estate offices of other large University's were surveyed to identify potential precedents for the University of Minnesota as it considers master planning of UMore Park. A summary of three interesting models follows:

- Among other goals, Cornell University Real Estate Department (CU-RED) promotes activities that support commercialization of University technology and real estate activities to enhance the economic base and exemplify high standards of planning and development in Ithaca. The office has authority to acquire, sale, lease, develop, encumber, and plan all of Cornell's non-academic real property assets. CU-RED directs two brokerage offices. In Cornell office projects include office buildings, a mixed-use project, apartment buildings and a 300-acre business and technology. Typically, their real estate is provided through a land/ground lease with reversion rights on the land and improvements. Revenue from their ventures is assigned to the University's general use budget. The Board of Trustees votes on its use in consideration of an annual proposal submitted to it by the Cornell Division of Planning and Budget.
- The Massachusetts Institute of Technology Real Estate Office invests in and manages property for the endowment, investment in the general fund of the University, and for the benefit of the Institute's retirement and benefits plan. Through the Real Estate Office, MIT owns and manages considerable residential and commercial properties. It recently sold an office complex immediately adjacent to the University for over \$600 million and owns University Park, planned to be

a 2.3 million square foot mixed-use development in Cambridge, Massachusetts. This office relies on land/ground leases for most of its commercial holdings. In the case of University Park, the Real Estate Office has contracted with a single master developer, developed the master level permits in partnership with the developer, and provides the land to the developer through a long-term lease. Terms of the master agreement stipulate milestone activities and regular dates for the master developer to confer with the Real Estate Office.

- Simon Frasier University in Burnaby, British Columbia has established the SFU Community Trust, a wholly owned subsidiary of Simon Fraser University, to plan and manage UniverCity, a 200-acre mixed-use development adjacent to the University. The project's mission is to establish a community that complements existing and future University development and that creates an endowment fund and other sources of revenue to support University purposes. This project will be developed entirely through long-term leases and a multitude of developers. The project's board of directors includes representatives from the university's Board of Governors, officers of the university, and external experts knowledgeable about planning and urban development. The corporation receives advice from a Community Advisory Committee which represents the campus community and other interest groups.

In considering national developers and precedent University real estate accomplishments, the UMore Park Steering Committee visited four communities that presented



themselves of greatest interest to the group:

UniverCity

UniverCity is a mixed-use new community by Simon Fraser University with a creative approach to sustainable planning and new urban development. It is located in Burnaby, British Columbia in a unique mountaintop setting. In 1995, the City of Burnaby and Simon Fraser University entered into an agreement where the University transferred to the City approximately 820 acres of conservation land in exchange for approvals to build a new community surrounding the university campus. This campus came to be known as UniverCity.

Simon Fraser University currently has a daily on campus population of approximately 12,000 persons including the Resident Student population of 1,400. The goal of the Simon Fraser UniverCity concept is to create a vibrant, self-sustaining community known for its well planned neighborhoods, its strong links to the university and its deep respect for the natural heritage of Burnaby Mountain. It is connected by a network of bus routes and highways to downtown Vancouver and is about half way between the east and west extremes of Greater Vancouver's urbanized area. Simon Fraser has outlined four cornerstones which define the development of this new community: Environment, Equity, Economy, and Education.

- **Environment:** The community will be served by public transportation, is surrounded by over 1200 acres of park or conservation lands, and will employ innovative approaches to stormwater management and energy conservation.
- **Equity:** The community will include secondary suites to accommodate student needs, and will offer a diverse mix of apartments and homes for sale or rent.
- **Economy:** The community is zoned for mixed use and will provide job opportunities through the university, the expanded research park known as Discovery Park, as well as develop the UniverCity High Street which offers a mix of service-based industries and businesses.
- **Education:** The community can utilize Simon Fraser childcare, classes, continuing education, and summer

camp programs which are offered on campus.

For the purpose of the UniverCity Development Plan Concept, Simon Fraser University is planning for a total housing population of 10,000 persons. Simon Fraser University has also committed to provide a site, or sites for an elementary school that would be capable of being developed to accommodate 400 to 600 students. As of July, 2006, the community contains 1,000 townhouses and apartments and is one-tenth of its projected size. All buildings thus far have been built in accordance with the UniverCity community trust's green building guidelines.

Research Links:

<http://www.univercity.ca>

University Town

University Town is designed to bring market and non-market housing onto to the campus of the University of British Columbia (UBC). The reasons for this are multi-fold:

- To encourage a more active campus community (historically the campus was more commuter-oriented due to a lack of on-campus housing or affordable housing near the UBC campus);
- To offer a greater range of housing options for students, faculty and staff;
- To sponsor a live-work community where 50% of new market and non-market housing is targeted for people who work or study on campus, thereby significantly reducing the need for commuting; and
- To help build the University endowment, ensuring that the University maintains its position as a world leader in education and research.

University Town involves the construction of new residential and new academic buildings, and includes the planning of eight new neighborhoods in addition to nearly 2.5-million SF

of academic and research facilities within the 1,000-acre campus. 99-year leases for residential and commercial uses enable the University to still hold the title to the land and grow its endowment. The development is expected to generate US \$400-million for the UBC endowment.

Land leases are predicated upon commercial standards, with each leaseholder paying property taxes equivalent to those paid by residents in surrounding municipalities. 50% of new market and non-market housing is targeted for people who work or study on campus, reducing commuting to and from campus. UBC is the largest employer in the Greater Vancouver area. A real estate trust, UBC Properties Trust, oversees development and management of U-Town in a project management role.¹ Community amenities are intricately linked to University services and campus life such as resident memberships to UBC facilities and advanced ticketing for events. The neighborhoods will provide a mix of housing, university related shops and services, parks, community centers and amenities in a pedestrian-friendly setting close to the university's academic, cultural and recreational facilities. A wide range of housing options with transportation infrastructure, and cultural, academic, and recreational facilities will complete the community vision.

Most "non-institutional" development is expected to occur within eight local areas identified in the Official Community Plan (OCP), surrounding the academic core. The purpose of the Campus Community Plan and the Neighbourhood Plans is to interpret and apply the OCP's policies and development requirements as a framework for future development approval. Each Neighbourhood Plan contains a detailed land use plan, development controls, design guidelines, and servicing and transportation strategies.

Though the campus is generally considered part of the City of Vancouver, it is technically part of "Electoral Area



¹ UBC Properties Trust is a "market oriented private company wholly owned by the University of British Columbia. It was established in 1988 with a mission to acquire, develop and manage real estate assets for the benefit of the University."



A,” which is outside the local jurisdiction of the City. In fact, full-time residents of the campus do not have local representation in Vancouver government or vote in City elections. Representation exists at the regional (Greater Vancouver Regional District, GVRD) and provincial levels only. The University, therefore, plays the role of local government, providing services like water, sewer, and waste disposal. The University Neighbourhoods Association (UNA) was established to serve the evolving non-institutional residential community. The UNA “approximates” a municipal council. The UNA will be responsible for local regulation (such as animal and parking control, as well as community programs and recreation, elections, landscaping, noise control, recycling, refuse collection, trails) and liaison for the use of UBC facilities. Residents’ concerns, opinions and views will be heard through the UNA, and it will help shape future development and the allocation of community facilities.

Research Links:

<http://www.universitytown.ubc.ca/>

<http://www.ubyssey.bc.ca/20060127/article.shtml?%3C!--1--%3EFeature/utown.html>

http://www.scarp.ubc.ca/Newsbytes/Fall%202003%20website/U_Town_SCARP.htm

<http://www.myuna.ca/>

<http://www.ubcproperties.com/>

<http://www.ubcproperties.com/documents/EndowmentBrochure.pdf>

Stapleton

Stapleton is a 4,700-acre site, 5 miles from downtown Denver. It is primarily constructed on land previously used for the Stapleton International Airport and is surrounded by developed areas. As described in the master plan for the community “the Stapleton site will be a network of urban villages, employment centers and significant open spaces, all linked by a commitment to the protection of natural resources and the development of human resources.”²

In 1989, the State decided to construct a new Denver International Airport and close Stapleton International Airport, leaving 4,700 acres of urban land vacant. Planning for the future of the Stapleton property began when a group of citizens undertook a large-scale community planning exercise known as Stapleton Tomorrow. In 1998, Forest City Enterprises was chosen to be the master developer of the former Stapleton airport. The master-plan emphasized economic development, benefits to adjacent neighborhoods, enhanced environmental quality, high standards of urban design, educational and cultural opportunities, and the creation of revenues to support airport objectives.

² Stapleton Development Plan: Integrating Jobs, Environment and Community, 1995.



In April 2001, Forest City Stapleton acquired the first parcel of land and began the first phase of the 25-year, \$5 billion development envisioned by the Denver community more than 12 years before. When complete, Stapleton is expected to house 30,000 residents and host 35,000 workers. 1,116 acres at Stapleton will be devoted to regional parks and open space.

A September 2006 report entitled “The Stapleton Redevelopment Area” details the \$5.7 billion economic and fiscal impact of Stapleton to date. This includes \$185.5 million on site preparation, \$330 million in infrastructure improvements and employee retail expenditures of \$695 million.

The redevelopment of Stapleton has challenged developers to coordinate and implement a range of development

activities that are nearly unprecedented in their scope, and one of the largest urban redevelopments in the nation. Forest City has coordinated the work of ten single family builders selected to create housing that meets high standards for urban design and energy efficiency, while also being affordable to a wide range of incomes, including housing for “workforce” households that make 80% or less of the Area Median Income. Regional and neighborhood retail centers that are pedestrian-friendly and provide a diversity of opportunities for a variety of retailers, including small, minority and woman-owned businesses are also being provided for at Stapleton.

Forest City Enterprises, Inc. is principally engaged in the ownership, development, acquisition and management of premier commercial and residential real estate throughout the United States.

Research Links:

<http://www.stapletondenver.com>

<http://www.forestcity.net/>



PROGRAM AND PHYSICAL PLAN OPTIONS

CHAPTER FOUR

4.1 INTRODUCTION

Members of the UMore Park Steering Committee and many stakeholders of this strategic planning process believe that a new community that bears the University of Minnesota imprimatur is the best future use for UMore Park. As a general concept, a master planned community is envisioned to support for UMore Park. Master planned communities are equated with high quality design and commensurate financial return.

Through this planning process, the UMore Park Steering Committee examined a number of appealing program elements. The urban character of well-loved communities in the area were studied to identify attributes that might be included in the design of the new UMore Park community. The UMore Park Steering Committee explored ways that the University could perpetuate its legacy as a land grant institution and its prominence in the region by making this a community that represents the land grant mission of research, education and engagement for the next generation, specifically through the themes of education, health and energy.

During the planning process, the Sasaki Team proposed potential program elements for UMore Park to support the vision of the site as a community of remarkable quality of life and innovation in design at all levels, with

community, landscape and buildings supporting a model of sustainability. Three questions guided the Sasaki Team's proposed program elements:

- What are non-conventional program elements that can distinguish UMore Park?
- How can UMore Park exceed baseline market values and induce demand through innovative planning and design?
- What is the right balance of land uses to meet the University's mission and satisfy community expectations?

These questions elicited responses that helped the Sasaki Team to understand the desires for the site at a more detailed level. It also prompted the UMore Park Steering Committee to establish subcommittees to advance consideration of the role of education, health and energy at UMore Park.

This phase of the development of the UMore Park strategic plan set the stage for the Sasaki Team to begin its design process. The Sasaki Team's planning process was created to realize six objectives that are evident in sustainable communities:

1. **Celebrate Community** – Create a design that speaks to the context of Minnesota, borrowing from the most celebrated town planning, urban design elements and architectural style and from the universal elements of our best cities. Introduce elements of our best cities. Introduce elements of a vibrant community, such as connected neighborhoods, mixed uses, housing, municipal and civic services, shopping and employment, culture, and a range of open spaces. Provide a variety of housing types to accommodate the needs and interests of all the community’s household types, from families to the elderly. Illustrate the planner/designer’s understanding of public policies and plans that influence UMore Park’s development. Tailor the physical design to the needs and interests of the anticipated resident community at UMore Park.
2. **Design for the Pedestrian** – Design a pedestrian-oriented environment. Create a walkable community with appealing streets and destination points within reasonable distance of residential settings. This will reduce transportation-related energy consumption and promote public health. Create streets in a grid pattern with attractive streetscapes. Create a downtown of dramatic vistas and active parks. Design a trail system within the community to link developed areas with rural and undeveloped areas, and, ultimately, to the Vermillion River and the anticipated system of trails to be developed on the southern part of UMore Park.
3. **Enhance the Natural Environment** – Design will enhance the site’s ecology. Concentrate development and preserve large parcels of open space to conserve ecological communities. Create corridors so that animals can traverse developed areas and continue to benefit from the region’s many, significantly-sized undeveloped areas. Adequately protect sensitive ecosystems and threatened and endangered plants and animals. Address site contamination to correct any associated environmental problem and allow for development throughout the site.
4. **Provide Transportation Options** – Pursue the opportunity for a rail connection to UMore Park from Minneapolis/St. Paul and anticipate access point(s) within the UMore Park site plan. Plan for bus service to and throughout UMore Park.
5. **Enhance Water Resources** – Build on the strength and logic of predecessor plans. A watershed protection approach at UMore Park identifies means of conserving water resources, reusing water, managing stormwater, and innovative treatment of wastewater, all with the objective of maximizing water quantity and quality in the sub-basin. Use parks and open space to support innovative stormwater management strategies.
6. **Achieve Energy Efficiency** – Develop alternative energy and climate-responsive energy efficient design in combination with compact development, reducing automobile reliance and greenhouse gas emissions. Design energy efficient structures.

4.2 COMMUNITY DESIGN PRECEDENTS

The vision for UMore Park is of a sustainable community—one that works to provide for the social, economic, and environmental well-being of its host population. It is imagined to be a model for other land grant institutions, an example of how a University's imprimatur can attract uses and investments much more significant than would otherwise occur. While part of the wonder of the community will be these uses and the attention they may attract for residents, visitors and University researchers, the actual city form and architectural dimensions will borrow from the best loved of Minnesota's cities and towns.

These communities have attributes that urban designers and developers study as their models for master planned communities. The centers of these communities are dominated by architecture — both commercial and residential — that is varied, interesting and appropriate to the region in its design vernacular and materials. Historic structures, parks and other forms of landmarks are prominent and well-maintained. The centers are populated by pedestrian traffic and not overwhelmed by automobile circulation. People who use these streets represent a range of ages and types of people from the greater community. Crossing the street is safe, both from the perspective of rate of travel for automobiles and trucks, and because of clearly marked and handicap accessible crossings. Natural

assets of the town are evident — streets and views are open to river crossings, distant mountains or dramatic views to farmland; topography has been honored rather than manipulated through the community's development. Outside of the town center, residential neighborhoods offer an inviting experience to pedestrians through scale, provision of sidewalks and shade trees and a street and signage system that provides easy direction to destinations (such as a library, schools or recreation fields) that are in or about the neighborhood.

A specific concern for water management has the twin objectives of managing water consumption to avoid waste and returning as much water as is practical to the water basin. Low Impact Development (LID) is the term that characterizes the family of design strategies that work to enhance the ability of a site to manage rainfall with the objective of matching the pre-development condition. These are innovative techniques that will provide research opportunities for University faculty and programs.

The Sasaki Team recommends the following LID techniques for UMore Park. Their placement and mix will be tested during development of site design. At that time, modeling of the site can provide the University with data to measure their location-specific effectiveness.

Objective 1:

Minimize Interference of Land Conditions that Perform Natural Infiltration, Control Erosion

<i>LID Technique</i>	<i>Potential UMore Park Design Guidelines</i>
<p>Avoid/minimize unnecessary tree clearing</p>	<p>Design guidelines should identify tree cover to be preserved wherever possible. Design guidelines for the site should indicate that one-sided street sections should only have a 10' clearing on open side (with the exception of saving significant trees) or to the limit of fill, whichever is greater.</p> <p>Design guidelines might stipulate a 20' clearance restriction around building footprints (or limit of fill, whichever is greater) and a clearance for paved surfaces of 10' (or limit of fill, whichever is greater).</p>
<p>Avoid/minimize topography changes that increase runoff</p>	<p>Current condition of reusing existing lots and roads limits the concern about changing topography. Use of previously cleared/ developed sites over undeveloped sites is encouraged.</p>
<p>Engineer locations to improve infiltration conditions—bio-retention ponds, wetswales, filter strips, infiltration trenches; install dry wells for roof runoff</p>	<p>Swales can be located along the open space side of single-loaded roads and on the road edge in the large lot areas (recommend shared driveway condition in combination with the swales to maximize opportunity for infiltration). Roads can be designed with slotted curbs to maintain the desired aesthetic and accomplish low impact development objective. Rain gardens and infiltration areas should be used.</p>
<p>Create a system of localized detention ponds to limit amount and velocity of water conveyance as well as improve water quality; construct wetlands</p>	<p>Localized detention cells can be introduced into zones not identified for development, recommend wetbench design for visible areas.</p>



Objective 2:

Integrate LID into Design of Paved Surfaces (roads, parking lots, alleys, driveways, pedestrian paths)

<i>LID Technique</i>	<i>Potential UMore Park Design Guidelines</i>
Construct parking lots with vegetated swales in medians	Vegetated swales can be installed in any parking lots throughout the site.
Install infiltration or wet swale trenches along road surfaces. Design sidewalk, driveway and parking lot flows to drain away from street gutter and pipe systems into vegetated swales or bioretention areas.	Swales can be located along the open space side of single-loaded roads and on the road edge in large lot areas. Roads can be designed with slotted curbs to maintain the desired aesthetic of a curb and accomplish low impact development objective. Relatively low use roads, particularly in remote locations can be curbless.
Plan shared parking to limit number of parking spaces, decrease impervious surface of lot	Relevant to mixed-use areas.
Use pervious pavement for event and overflow parking areas, driveways and pedestrian paths)	Pervious pavement can be used for event and overflow parking. Pavers (Turfstone and EcoStone) and porous concrete (Ecocrete) can be used in parking lanes, alleys and driveways. Porous concrete or porous asphalt is recommended for sidewalks and can be used on multi-use paths. Footpaths need no paving.
Install best performing catch basins (deep sump, hooded catch basins)	Universally applicable.
Minimize pavement for roads by minimizing the number of traffic lanes and through narrowed traffic lanes	Universal. Road lanes can be as narrow as 10'.
Avoid installing curbs on streets	Install slotted curbs with curb inlets when curbed street are otherwise desired. With this, design grass strips between the road and sidewalk.



Objective 3:

Prevent Pollution

<i>LID Technique</i>	<i>Potential UMore Park Design Guidelines</i>
Minimize use of fertilizers, de-icing salt, and pesticides	Universally applicable.
Install cisterns to reduce stormwater runoff quantity and velocity, and to provide storage for irrigation water.	Most cost efficient in commercial and multi-family dwellings and can be used in garden or small-scale agricultural situations.
Vegetate roofs to limit amount and velocity of water conveyance associated with buildings	Universally applicable
Establish buffers around water bodies to protect and maintain water quality from effluent, agricultural runoff, pesticides, and other pollutants.	Establish 50-100' buffers where pollutant loading may affect water quality, particularly between streams and intensive agricultural uses.



Objective 4:

Improve Maintenance Practices

<i>LID Technique</i>	<i>Potential UMore Park Design Guidelines</i>
Regularly sweep streets and parking lots	Universally applicable
Regularly clean out stormwater detentions structures	Universally applicable
Add soil amendments	This is relevant for paved surfaces or reclaimed areas being converted to open space and in any non-grass infiltration areas.
Regularly replace catch basin filters for street and parking lot runoffs	Universally applicable



4.3 POTENTIAL PROGRAM ELEMENTS

The Sasaki Team explored several program elements, including arts and culture, recreation and open space, non-University education, agriculture, alternative energy production, and other University uses. Because Minneapolis-St. Paul has a strong arts and culture economy, effectively serving as the arts and culture center of the northern Midwest, an in-depth study was undertaken to articulate options and test the viability of establishing a cultural destination center at UMore Park.

Agritourism

Agritourism is a type of tourism that allows visitors to live temporarily on a farm's premises, enjoy the natural beauty of the farm, and participate in farm-work. In Italy, where Agritourism originated, called Agroturismo, the industry is highly organized and known world-wide. Agritourism provide authentic cultural experiences, highlighting the scenery, culture, and natural flavors that can not be duplicated in resorts and hotels.

Precedents

Melstead Place (Mountain, ND) is an agritourism bed and breakfast in Mountain, North Dakota, that markets its rural, peaceful location to lure urbanites and suburbanites, along with locals who visit the farm regularly. The owners originally saw the rural, "middle of nowhere" location as a pitfall, but have found that this is what visitors love most about it. The bed and breakfast has allowed the owners to maintain the agricultural roots of their land by providing a steady income and stream of visitors to patronize and support their farm. Melstead Place specializes in holiday events, which always draw a large local crowd.

Double T A-Cres Ranch (Stevinson, CA) was one of the first organic dairy farms in California's Central Valley. It is a family-owned farm with a museum. They specialize in hosting weddings. The farm owners also have social missions. It has a relationship with a group of farmers in

Ethiopia, whom they met during their travels and provide the Ethiopian farmers with necessities such as powdered milk. The ranch provides a variety of educational hands-on programs for local school children.

Vacanza Italia (various locations in Italy) is an organization that works with a network of farmers to provide farming holidays throughout Italy. The network of farms offers accommodations that range from small apartments on farm grounds to luxury villas on rural estates. Some farms offer cooking and painting classes. All farms are historic buildings, many family-owned, and they highlight the local flavors and cultural practices of their specific areas.¹

Biomass Energy

Renewable energy sources in the United States account for approximately 9% of total electricity generated.² Biomass power is the second largest source of renewable energy after hydroelectric power, and makes up approximately 19% of total renewable energy. Biomass is a substance that can be used to produce fuel and consists of wood, grasses, and agricultural residue, as well as animal excreta, municipal solid waste, and food processing residue. Studies indicate that Minnesota has excellent biomass resource potential. The agricultural and forestry sectors of Minnesota make available significant quantities of residual biomass.

Biodiesel is a clean-burning alternative fuel produced from domestic, renewable resources. In Minnesota, it is made primarily from soybeans, but it can also be made from other materials such as vegetable oils, animal fats and spent cooking oil.³ Biofuels can be blended with gasoline or

1 Research Links
<http://www.sfc.ucdavis.edu/agritourism/agritour.html>
<http://www.nrcs.usda.gov/Technical/RESS/altenterprise/Alternatvbroch.pdf>
<http://www.nrcs.usda.gov/Technical/RESS/altenterprise/success.html>
<http://www.agritourismworld.com/>
http://www.agriturismoitaly.it/panel/qualita_eng.php
<http://www.wwoof.org/howworks.asp>
http://www.slowfood.com/eng/sf_ita_mondo/sf_ita_mondo.lasso
http://www.cfap.org/afs_temp3.cfm?topicID=372
<http://www.vacanzaitalia.com/montalcino.htm>

2 National Renewable Energy Laboratory, Minnesota Biomass – Hydrogen and Electricity Generation Potential. Golden, Colorado, February 2005.

3 The most common method of producing biodiesel is to react animal fat or vegetable oil with methanol in the presence of sodium hydroxide (a base, known as lye or caustic soda). This reaction is a base-catalyzed transesterification that produces methyl esters and glycerine. If ethanol is substituted for methanol, ethyl esters and glycerine are produced. Methanol is preferred, because it is less expensive than ethanol.

directly substituted for diesel. Use of biofuels reduces toxic air emissions, greenhouse gas buildup, and dependence on imported oil, while supporting agricultural and rural economies. Unlike gasoline and diesel, biofuels contain oxygen. Adding biofuels to petroleum products allows the fuel to combust more completely and this reduces air pollution.

As of 2002 Minnesota legislation, Minnesota requires nearly all diesel fuel sold in the state to contain at least a 2% biodiesel blend. Since 2005, with three new production facilities, Minnesota is the largest producer of biodiesel in the U.S. The production capacities of the three Minnesota plants are as follows:

- FUMPA (Farmers Union Marketing and Processing Association) in Redwood Falls - 3 million gallons;
- Soy Mor in Albert Lea - 30 million gallons; and
- Minnesota Soybean Processors in Brewster - 30 million gallons.

In an effort to accelerate development of the statewide biodiesel industry in 2003, the Governor formed a Biodiesel Task Force to increase the production and use of biodiesel in Minnesota.

The National Renewable Energy Laboratory estimates values for the biomass inventory in the State of Minnesota. Additionally, based on these supplies, NREL also estimates the electricity potential from this and the percentage of electricity that could be met using biomass power.⁴

<i>Source of Biomass in Minnesota</i>	<i>Average of all biomass resource data, tons/year</i>
Forest Residue	874,900
Mill Residue	903,549
Agricultural Residue	24,895,287
Energy Crops	5,783,002
Urban Wood Waste	1,532,529

⁴ National Renewable Energy Laboratory, Minnesota Biomass – Hydrogen and Electricity Generation Potential. Golden, Colorado, February 2005.

- NREL estimates that 1 ton/year of biomass resource base has an electricity potential of 1 MWh/year when used in direct-fired biomass power plants.
- Test plots of switchgrass at Auburn University have produced up to 15 tons of dry biomass per acre, and five-year yields average 11.5 tons—enough to make 1,150 gallons of ethanol per acre each year.⁵

<i>Power Potential from the Use of Direct-Fired Biomass Power Plants in MN</i>	<i>Electricity Potential (MWh/year)</i>	<i>% of MN electricity that could be met with biomass power</i>
Forest Residue	1,233,609	2%
Mill Residue	1,274,005	2%
Agricultural Residue	35,102,355	58%
Energy Crops	8,154,033	14%
Urban Wood Waste	2,160,866	4%
TOTAL	47,924,867	80%

The University of Minnesota's Center for Biorefining, affiliated with the University of Minnesota Initiative for Renewable Energy and the Environment, coordinates University efforts and resources to conduct exploratory fundamental and applied research. It provides education on bioenergy, biochemicals and biomaterials. It stimulates collaboration among University researchers, other public sector investigators, and private investigators involved in bio-based production technology development. It initiates technology transfer to industries, fostering economic development in rural areas.⁶

⁵ Oak Ridge National Laboratory, Bioenergy Feedstock Information Network, Biofuels from Switchgrass: Greener Energy Pastures, <http://bioenergy.ornl.gov/papers/misc/switgrs.html>

⁶ <http://biorefining.coafes.umn.edu/home.php>

Breadbasket for the Twin Cities

This concept considers UMore Park the breadbasket (*geographic region serving as a principal source of food supply*) for the Twin Cities campuses, providing fresh fruit, produce, grains and perhaps meats to University Dining Services and the greater campus community. It might work similarly to a community-supported agriculture program wherein the University would purchase shares in local farms in exchange for produce. “Local food” is any food that is grown by farmers who live in the same area as the people who buy the food. Local food sales include all forms of direct marketing. Local food also includes the sale of food by a farmer or a group of farmers to a restaurant, grocery store, caterer, etc., who will then sell the food to customers.

Buying locally grown food is an investment in the economic, social, and environmental wellbeing of your community. Specifically, buying local foods:

- Reduces the number of miles, refrigerating, processing, and packaging that is typical of most American meals;
- Supports local farmers and communities;
- Helps to sustain the environment;
- Promotes tourism within the area;
- Promotes healthy food choices;
- Maximizes freshness and taste; and
- Retains food dollars in the community.

In support of local agriculture, the University’s Dining Services (UDS) has developed an ongoing partnership with Food Alliance Midwest, an organization that provides certification of products grown using environmentally friendly and socially responsible agricultural practices in the Midwest. UDS uses Minnesota grown produce, including apples, strawberries, eggplant, green peppers, cabbage, radishes, cucumbers, green beans, potatoes, and sweet corn when in season. UDS purchased five tons of produce locally from May through October 2005. The residential restaurants featured Pepin Heights Honey Crisp apples during October. Honey Crisp apples were invented at the University of Minnesota.

Sustainable agriculture items are used in recipes at all UDS residential restaurants, catering, and retail locations.⁷

Cluster Development

Cluster development is a type of development that places all housing in a concentrated space, leaving as much public open space available as possible. The purpose of cluster development is to preserve an area’s natural beauty and allow all inhabitants access to open spaces. This, in turn, can create more desirable living communities and higher property values, while preserving natural spaces for everyone’s enjoyment. In many cases, further development is prohibited on the protected open space.

Precedents

SouthWood (Tallahassee, FL) has combined the principles of traditional American town-building with respect for the natural environment. SouthWood’s community framework focuses on the town center at the 123-acre Central Park. The land uses are spatially arranged to draw together the activities of a traditional “Main Street” and its mix of uses, with workplace and school in an urban pedestrian environment linked by 12 miles of walking trails. An existing state office park adjoining the site is being expanded and integrated into the town center.

A distinctive architectural vernacular has been developed for SouthWood based on small-town historic precedents; while townhouses border the streets close to Central Park, homes with broad verandas stretch along tree-lined roads and overlook SouthWood’s golf course. The soft forms of

⁷ *Research Links*
Community Farm Alliance. L.I.F.E.: Locally integrated food economies. www.community-farmalliance.org/life.htm
Forbord, Mary Jo. The Eye of the Storm. Sustainable Farming Association of Minnesota. www.sfa-mn.org/pages/cpost/cp-0141.html#1.
Pirog, Rich et al. Food, Fuel, and Freeways: An Iowa perspective on how far food travels, fuel usage, and greenhouse gas emissions. Leopold Center for Sustainable Agriculture, June, 2001. <http://www.misa.umn.edu/forum/foodmiles.pdf>.
Minnesota Institute for Sustainable Agriculture. University of Minnesota. http://www.misa.umn.edu/Local_Food_Consumer.html
Salatin, Joel. Holy Cows and Hog Heaven: The Food Buyer’s Guide to Farm Friendly Food. 2004. Polyface, Inc.
University Dining Services. University of Minnesota. <http://www1.umn.edu/dining/awareness.html>

the site's natural systems, with its Live Oaks, meadows and necklace of ponds and lakes, frame the built environment, heightening the contrast between natural and manmade features.

Jackson Meadow (St. Croix, MN) is a neighborhood built to foster social interaction. There is plenty of public open space, and most of the inhabitants' basic, everyday needs are within walking distance. Everyone's front yard converges with walking paths, and garages are not attached to the homes. The biking and hiking trails connect Jackson Meadow with neighboring towns in order to foster interaction with the larger community.⁸

Co-Housing

Co-housing is housing in which residents actively participate in the design and operation of their own neighborhoods and are committed to living together as a community. The physical design encourages both social contact and individual space. Private homes contain all the features of conventional homes, but residents also have access to common facilities such as open space, courtyards, a playground and a common house. Co-housing communities are usually designed as attached or single-family homes along one or more pedestrian streets or clustered around a courtyard. The majority of these communities house twenty to forty households.

8 Research Links

<http://www.kingwood.com/about.php>
<http://www.jacksonmeadow.com/>
<https://entp.hud.gov/idapp/html/subdivlook.cfm>
www.ci.oak-ridge.tn.us/ComDev-html/PUD.htm
www.joe.com/web/
www.joe.com/web/TownsAndHomes/SouthWood/News/04.01.03ArvidasNewestGolfCourse.htm
www.golfcoursehome.net/doc/communities/Community-Southwood.htm
www.myflorida.com/fdi/fsc/news/local/9902/rt-sw1.htm
www.sustainabledesignguide.umn.edu/MSDG/case/jm/jm.html
mocoloco.com/archives/000200.php
news.minnesota.publicradio.org/features/2003/01/13_helmsm_jacksonmeadow/
www.woodmags.com/wdb/magazine_rack/2004_fall_29/jackson/index.php3
www.mnproject.org/pdf/ccschapters/jackmead.pdf
www.kingwoodonline.com/

Precedents

Cambridge, Massachusetts Co-housing

- Urban residential community located on a 1.5-acre site, a ten-minute walk from vibrant Porter Square
- The site is close to schools, parks, shopping and public transportation
- The co-housing is organized as a condominium association

Muir Commons Davis, CA

- Davis is located in Northern California 15 miles west of Sacramento and seventy-five miles northeast of San Francisco. Muir Commons is part of the Aspen development in West Davis
- Neighborhood features include a greenbelt, parks, a wildlife pond, and an elementary school
- Muir Commons is made up of twenty-six homes on just under three acres and is home to approximately forty-five adults and twenty-eight children
- Muir Commons is legally structured similar to a condominium

Robert's Creek, British Columbia

- Located in the heart of 'downtown' Roberts Creek, on the Sunshine Coast of British Columbia
- A semi-rural community of thirty-one detached (single-family) and attached (duplex) homes on twenty acres of land, a short walk to the Pacific Ocean, and steps away from the thriving village center of Roberts Creek.

Heartwood, Durango, CO

- Located near Durango in southwest Colorado, close to the state's largest wilderness area and the red rock canyons of the Colorado Plateau.
- Nestled gently in 250 acres of meadow, pine forest and pastureland⁹

9 Research Links

<http://www.cohousing.org/default.aspx>
<http://www.cohousing.ca/>
<http://www.cohousingco.com/>
<http://www.cambridgecohousing.org/>
<http://www.muircommons.org/>
<http://www.robertscreekcohousing.ca/>
<http://www.heartwoodcohousing.com/LANDPHOTOS.html>

Cold Climate Architecture

Cold climate architecture emphasizes topography, climate, light, and tectonic form. Research has demonstrated that very high levels of energy and resource efficiency can be achieved with design and building principles that are available to all and adaptable to other climates, sites, and uses.

Precedents

Rocky Mountain Institute (Snowmass, CO) was completed in 1984 and is a showcase of efficiency techniques which increase comfort and enjoyment while saving money and resources. The 4,000-square-foot building is super-insulated and semi-underground for microclimatic reasons. The windows have special glazing designed to maximize solar heating in cold climates. The building construction cost was still below the local median for custom buildings.¹⁰

Community Supported Agriculture (CSA)

A CSA is an agreement between a farmer and consumers in which the consumer pays an annual fee for a share of the harvest during the growing season. This provides consistent revenue for farmers, helping many small family farms stay in business. CSAs support the consumer in giving them fresh, healthy, local produce at prices that are often much lower than those at the grocery store. “CSAs support a sustainable agriculture system which . . .

- provides farmers with direct outlets for farm products and ensures fair compensation
- encourages proper land stewardship by supporting farmers in transition toward low or no chemical inputs
- strengthens local economies by keeping food dollars in local communities
- directly links producers with consumers allowing people to have a personal connection with their food and the land on which it was produced
- makes nutritious, affordable, wholesome foods accessible and widely available to community members.”¹¹

¹⁰ *Research Links*
<http://www.rmi.org/sitepages/pid379.php>

¹¹ <http://www.csacenter.org/movement.html>

The Land Stewardship Project (Minnesota) provides a CSA Farm Directory to Minnesota consumers, promotes connections between urban consumers and rural producers, and supports local and sustainable farming through a variety of programs.

Continuing Care Retirement Communities

Continuing Care Retirement Communities (CCRCs) are facilities that have flexible living accommodations ranging from independent apartment living to nursing and hospice care. CCRCs allow the aging to stay in one community for the remainder of their lives, no matter what their health and living needs become. Typically, CCRC residents enter a facility while they are healthy and active in order to have a more stable living environment as they age and anticipate needing more medical and living assistance.

CCRCs Without Walls are organizations that follow the same philosophy of CCRC facilities, but provide in-home service. Care receivers often pay a one-time fee as large as \$40,000, depending on a person’s age and care required, in combination with a monthly fee.

Precedents

Presbyterian Senior Care’s Longwood at Home (Pittsburgh Area) offers “without walls” care in one’s own home, in addition to traditional CCRC care on their Longwood at Oakmont campus outside of Pittsburgh. The care at Longwood at Oakmont is marketed towards wealthier clientele, with a campus situated on a country club. The at-home care is more affordable than the care at Longwood at Oakmont, opening up the possibility of CCRC care for the middle class.

Friends Life Care at Home (Philadelphia area) provides at-home care throughout Philadelphia and its suburbs. The services provided include home healthcare, homemaking assistance, skilled nursing, meal delivery, an emergency response system, adult daycare, and referral to home maintenance service vendors.¹²

¹² *Research Links*
CCRCs
<http://www.riocog.org/AAA/TCOA2006/sessions.htm>
<http://www.heronpoint.com/griffin.html>
<http://www.climatemaster.com/download/Commercial%20Case%20Studies/LC305.pdf>
<http://www.kendal.org/documents/meetgroundCurrent.pdf>
http://www.helpguide.org/elder/continuing_care_retirement_communities.htm#ccrc

Equestrian Facilities

Equestrian facilities are very popular year-round enterprises that attract a wide range of ages. The physical design of an equestrian facility can range from simple indoor and outdoor paddocks with stables to large show facilities. Many equestrian facilities also include their own trails for trail-rides, either on the premises or nearby.

Precedents

Alfred University Equestrian Center

- 50 horses, an indoor arena, classrooms, event viewing areas, outdoor riding rings, fenced pastures and trails.
- The University recently built the new equestrian center much closer to campus than an older center had been.

Bronx Equestrian Center, NY

- Offers boarding, sales, lessons, and special events.
- The location is close to the city and available to urban riders.

Giant Steps Equestrian Center

- Located just North of San Francisco.
- Giant Steps is a center that uses riding and caring for horses as therapy for people with a range of physical disabilities.¹³

Flexible Interdisciplinary Research Space

The “hotelling” concept is one where office workers are not permanently assigned to desks, which reduces the needed square footage the company purchases because not every employee will be under the same roof at the same time. The

flexible interdisciplinary research space concept relies on shared facilities and common gathering places for academic and corporate users, thereby encouraging collaboration, networking, and professional and academic development.

Precedents

The Collaborative Innovation Center (Carnegie Mellon University)

is a 120,000 square foot, state-of-the-art dry-lab research facility to be built on the Carnegie Mellon campus. The Collaborative Innovation Center is an opportunity to create better, smarter and stronger relationships between university researchers and leading corporations, and to produce the kinds of dramatic breakthroughs in science, engineering and technology that have put Carnegie Mellon on the map for more than a century. The facilities include a two-story amphitheater, locker rooms, parking for 220 cars, an electric recharge station for electric vehicles, and raised-floor and modular data wiring for flexible “plug-and-play” office and lab set-up.

The James H. Clark Center (Stanford University) is dedicated to interdisciplinary research related to bioscience. It serves as a focal point for the Bio-X program supporting interdisciplinary research for its 270 Stanford faculty affiliates and their coworkers. The Clark Center will be the research home for about 600 people, affiliated with 25 departments. Shared facilities within the building include an auditorium and seminar rooms, a teaching laboratory, a Biofilm Center, the Stanford Center for Innovation in In-vivo Imaging, low vibration laser labs, special projects space, and two super computers. Clark is also home to the new Department of Bioengineering, a joint effort by the Schools of Medicine and Engineering. Two restaurants, Peets Coffee & Tea (open 8-6 weekdays) and LinX, a full-service restaurant (open 10-5 weekdays) provide gathering places. “Hotel Space”: Within the Clark Center are 65 bright yellow three-foot benches that are available to researchers for temporary occupancy. The benches provide an opportunity for researchers to work in close proximity during the early stages of projects. Hotel space is designed to encourage cross-disciplinary collaboration.

12 cont. CCRCs without Walls
http://www.findarticles.com/p/articles/mi_m3830/is_n2_v47/ai_20465581#continue
<http://www.srcare.org/pages/livingcare/pdfs/CollateralInsertsClean.pdf>
http://www.aging.org/files/public/Aging_in_Place_Issue_Brief.pdf
<http://aging.state.ny.us/explore/housing/housalt2.htm>

13 *Research Links*
<http://www.northequest.com/>
<http://www.essexquestrian.com/>
<http://www.glenwoodequestriancenter.com/news012803.html>
http://www.primebldg.com/Prime_equestrian.htm
<http://www.iowaquestrian.com/testimonials.html>
<http://www.dreampowerttherapy.org/>
<http://www.giantstepsriding.org/>
http://www.thejudgeschoice.com/schools_camps.htm
<http://uplandfarm.com/harbor.htm>
<http://www.bronxequestriancenter.com/>
<http://www.bizjournals.com/buffalo/stories/2004/05/10/daily33.html>
<http://www.alfred.edu/athletics/facilities.html#equestrian>

Discovery Park (Purdue University) supports multi-principal investigator (PI) multi-departmental research initiatives. By 2006, Discovery Park will have: 5 new interdisciplinary research buildings, 3000 students involved in entrepreneurial activities, 500 faculty involved in interdisciplinary research, \$25 million/year in sponsored research funding, \$10 million/year in recurring infrastructure support, 8 new start-up companies created, 20 new ventures supported within existing companies, and 20 corporate partners.¹⁴

Large-Scale Sustainable communities

Many new communities address sustainability as an environmental, economic, and social concern — and marketing tool — and strive for a diverse population for which to provide services and amenities that will last for generations.

Each project recognizes that transportation, employment and educational infrastructure is necessary to support a growing population. In addition, each community is near an urban center and is making it a priority to connect to that urban center through public transportation and walking and biking paths. The projects aim to preserve the history of their sites.

Some, such as Viikki in Helsinki, are closely related to a university, while others are tied more closely to the social and geographical history of a place, such as Callaway Gardens outside Atlanta. Communities such as these, when associated with a university, can put the university at the forefront of sustainable development and attract significant investment.

Precedents

Viikki; Helsinki, Finland

- Seven to ten kilometers from Helsinki city center.
- Currently, 5,000 housing units, 7,000 inhabitants.
- 2015 Projection: 15,000 Inhabitants, 6,000 students, 7,000-8,000 jobs.

14 Research Links

<http://www.cmu.edu/co-lab/>
<http://biox.stanford.edu/clark/index.html>
http://biox.stanford.edu/clark/images/Hotel_policies.pdf
<http://web.e-enterprise.purdue.edu/wps/portal!ut/>
<http://www.purdue.edu/DiscoveryPark/pdf/dp.pdf>

- Mix of rented and owned housing.
 - Buses and train line connect Viikki to Helsinki.
 - In 1946, land was converted from prison services to a research farm for the University of Helsinki.
 - Major transformation to present its state began in 1993 with the initiation of the Viikki Science Park.
 - Houses the University of Helsinki's Campus of agriculture, forestry, biosciences, pharmacy, veterinarian medicine.
 - Multiple public primary and secondary schools.
 - Viikki Science Park: At center of Viikki, place for advanced biotechnology research and entrepreneurship, plus a Neuroscience Center and the Viikki Science Library.
 - Local Commercial Center currently being built.
 - Ecological criteria for new building monitors pollution, use of natural resources, diverse nature and food production, passive and active solar energy, and general health of living environments.
 - Benchmark sustainability data:
 - 20% reduction in carbon dioxide emissions*
 - 20% reduction in consumption of pure water*
 - 10% reduction in building site waste during construction*
 - 20% less mixed refuse*
 - 40% less conventional heating energy*
- *COMPARED TO CONVENTIONAL BUILDING AND CONSUMPTION

Dongtan Eco-City; Shanghai, China

- Situated very close to Shanghai on China's third-largest island.
- Expected population of 50,000.
- 630 Hectares = 1,557 Acres (3/4 size of Manhattan).
- Aims to be "World's First Sustainable City."
- Will attract commercial and leisure investment.
- Aimed to be open for Shanghai's International Expo in 2010.
- One-hour ferry ride from downtown Shanghai.
- Sustainability Initiatives:
 - Capture and purify water
 - Reduce environmentally degrading landfills
 - Combined heat and power systems using renewable energy

- Zero-emission transit
- Human sewage processed for compost and irrigation
- Make all public transportation within a 7 minute walk of all parts of the city.

Thames Gateway; London, England

- Land stretching forty miles east of East London, on both sides of Thames River and Estuary.
- Anticipated 30,000-40,000 new homes and 50,000 new jobs.
- Area is currently mostly brownfields, designated a national priority for urban regeneration.
- Area is polluted and segregated by waterways, roadways and railways.
- Extensive infrastructure projects in the works for transportation and social services to support the increase in people and jobs and integrate with surrounding communities.
- Aims for 50% affordable housing.
- First phase of planning for 2012 Olympic and Paralympic Games.
- Envisioned as a “Water City” with canals, waterways and green spaces.
- Thames Estuary is a significant travel route to mainland Europe and has been historically valuable to Britain.
- Plan intends to establish 9 distinct areas with commercial, industrial, residential, and other uses.
- Area currently has 1.6 million people, some of the most underserved in the country.
- Sensitive wetlands exist on the site and may be in danger with increased visitors and building intervention.
- Concern in being expressed for the risk of flooding and the need for flood management.
- Residents are becoming worried of being priced out of their homes and house prices inflating over time.
- Sustainability Initiatives:
 - Maintaining high, stable levels of economic growth
 - Social progression meeting the needs of a diverse population
 - Natural resource conservation
 - Minimizing need for automobile travel
 - Using land efficiently

- Enhance value and accessibility of marshlands
- Increase green open space linking urban and rural areas
- Create a website to expose public to sustainability initiatives
- Minimize water usage

Callaway Gardens; Atlanta, GA

- 20,000 Acres
- Resort community (golf course, tennis courts, inn) with nature preserve.
- Preserve has been named an “Important Bird Area” (IBA) by the Audubon Society.
- 10 miles of bike paths.
- 40-acre garden.
- 60-minute drive from Atlanta.
- Contains enclosed Butterfly Center.
- 7.5-acre vegetable garden.
- Attracts 1 million visitors annually.
- LEED certified conference center.
- Sustainability Initiatives:
 - Plans exist for future sustainable community development
 - Support biodiversity on the nature preserve
 - Act as a model for others to preserve natural places
 - Expose the public to preservation and open space initiatives

North Charleston Sustainable Community Redevelopment; Charleston, SC

- Redevelopment of 3,000 acres.
- Includes 350 acres the City of North Charleston acquired from Charleston Naval Complex Redevelopment Authority.
- 200-acre park surrounding Noisette Creek.
- Up to 10,000 new and rehabilitated housing units projected.
- 6-8 million sq. ft. of commercial space.
- Revitalization intended for North Charleston’s Old Village.
- Improvements to area public schools.
- Museums, recreation, tourist destinations to be built.

- 20-year timeline for the project, 2-year timeline for master planning.
- \$30 million budget.
- Public/private partnership.
- Residential architecture is preserving character to of the Navy Yards.
- Sustainability Initiatives:
 - Reestablish Noisette Creek as a healthy, functioning ecosystem
 - Set a benchmark for smart growth and combat urban sprawl
 - Reclaim waterfront for public use
 - Integrate former Navy base into city
 - Preserve and promote area’s historical significance
 - Provide natural landscape that is accessible to urban populations
 - Pedestrian paths and bikeways to connect with neighboring areas¹⁵

15 *Research Links*

VIIKKI

<http://viikki.helsinki.fi/english/index.htm>
<http://helix.helsinki.fi/infokeskus/english/>
<http://www.cardiff.ac.uk/archi/programmes/cost8/case/holistic/finland-viikki.pdf>

DONGTAN

<http://www.arup.com/eastasia/project.cfm?pageid=7047>
<http://www.dongtan.biz/english/gywm/default.php>
http://www.guardian.co.uk/china/story/0,,1681385,00.html#article_continue
<http://www.wbcsd.ch/plugins/DocSearch/details.asp?type=DocDet&ObjectId=MTk4MTk>
<http://www.carbonfree.co.uk/cf/news/wk09-0002.htm>

THAMES GATEWAY

<http://www.thames-gateway.org.uk/>
<http://www.london.gov.uk/mayor/planning/lower-lea-valley.jsp>
<http://www.london.gov.uk/mayor/planning/docs/lowerleavalley-summary.rtf>
www.hm-treasury.gov.uk/newsroom_and_speeches/press/2004/press_barker_04.cfm
<http://www.seeda.co.uk/>
<http://www.tgessex.co.uk/pages.php?id=6>
<http://www.tgessex.co.uk/index.php>

CALLAWAY GARDENS

<http://www.callawaygardens.com/info/main.welcome.asp>
www.callawaygardens.com/info/aboutUs.thePreserve.generalInfoOnThePreserve.asp
<http://www.georgia.org/Travel/Discover/Major+Attractions/Callaway+Gardens.htm>

NORTH CHARLESTON SUSTAINABLE COMMUNITY REDEVELOPMENT

<http://www.bnim.com/fmi/xsl/portfolio/index.xsl?-token.pnum=03105&-token.pid=pr8-10&-token.cat=cat-8>
http://www.architectureweek.com/2006/0419/news_1-2.html
<http://www.noisettesc.com/pdf/news/3013822510641721.pdf>
http://www.noisettesc.com/press_news_article.html?id=59
<http://www.navyyardsc.com/>

Lifelong Learning

Lifelong learning programs are premised on the belief that participants who share new ideas, challenges, and experiences find rewards in every season of life. Lifelong learning programs offer unique educational experiences, infused with the spirit of camaraderie and adventure that enrich and enhance the lives of its participants. Programs are commonly taught by expert instructors who share stimulating information through in-depth lectures, field trips, and cultural excursions. Lively discussions with faculty and fellow participants illuminate issues and broaden horizons. Often, programs are hosted at universities during semester and summer breaks.

Elderhostel is a not-for-profit organization dedicated to providing extraordinary learning adventures for people 55 and over. From New Hampshire to New Zealand, South Africa to South Dakota, Elderhostel offers nearly 8,000 programs a year in more than 90 countries to more than 170,000 older adults annually. Workshops, travel tours, intergenerational programs, research projects, and courses are typical offerings.¹⁶

Lifestyle Centers

Lifestyle centers are high-end, urban commercial centers that are typically mixed-use and located near affluent residential neighborhoods. The central organizing element for this type of development is a main street or major promenade with generous tree-lined sidewalks, decorative pavement, benches, and pedestrian-scale lighting. A central plaza is also featured, usually with fountains, sculpture, and groves of mature shade trees, to create an activity zone for events. Lifestyle centers are popular destinations for local residents as well as the region for shopping and entertainment.

16 *Research Links*

<http://www.elderhostel.org>
<http://www.smith.edu/ada/>
<http://www.uclaextension.edu/>

Precedents

Santana Row (San Jose, CA) is a mixed-use lifestyle center: residential units (apartments, condos and townhouses), sixty-six shops, eighteen restaurants, five spas and a hotel. It is organized along the Third Street Promenade. Shops are typically high-end retailers including Gucci, Wolford, and Burberry. Restaurants cover a wide range from Chili's to the Straits Cafe. Pedestrian-oriented streets, farmers' market, open air concerts and events.

CityPlace (West Palm Beach, FL) is a seventy-two acre, \$600 million development in Downtown West Palm Beach featuring a mix of national and regional specialty retailers, residential units, a theater within a renovated 1926 church, and a twenty-screen Muvico cinema complex. These amenities are offered within an architecturally distinct complex reminiscent of an Italian town center. The retail center is located on fifty-five acres on the north side of Okeechobee Boulevard. It is a \$600 million development in Downtown West Palm Beach with 600,000 sq.ft. of retail, fourteen destination restaurants, 586 private residences, including town homes, rental apartments and live/work lofts, and a 375-room hotel. The residences at CityPlace are key to the long-term success of the project and will add twenty-four hour life to its streets and plazas. To date, all townhomes and garden condominium units have been sold. Demographics of the buyers include young singles, young couples, and retired couples who are attracted to the energy and activity that CityPlace will offer.

Stanford Shopping Center (Palo Alto, CA) offers a premier shopping and dining experience in the San Francisco Bay Area and is one of a few open-air malls across the country. Stanford Shopping Center was originally developed by Stanford University in 1956 and can be considered an early example of a lifestyle center, even though it is strictly a retail center and not mixed-use. Today, it is one of the most successful regional malls in the United States and offers over 140 stores and restaurants. Stanford Shopping Center is a part of the Simon Property Group, a real estate investment trust engaged in the ownership, development

and management of retail real estate, primarily regional malls, premium outlet centers, and community shopping centers.¹⁷

Organic Farming

Organic farming produces crops and livestock without the use of synthetic fertilizers, pesticides, growth regulators and feed additives. Some methods organic farmers employ are crop rotation, crop residues, animal manure, and mechanical cultivation for increased productivity, nutrients, and weed/pest control¹⁸. Organic farming has been one of the fastest growing segments of U.S. agriculture for over a decade. Certified organic cropland for grains, fruits, vegetables and other crops more than doubled from 1992 to 1997, and doubled again for many crops between 1997 and 2003.

Minnesota Organic Farmers' Information Exchange is one of the United States' top producers of organic cropland. Minnesotan organic farmers have a group of twenty-two "mentors," fellow organic farmers that can answer other farmers' questions.

Remote Departments, Off-Campus Storage

Many universities choose to use land outside of their campus to house certain departments, research ventures, and storage. This is one way for urban campuses to save money and space without compromising their mission and educational goals.

Precedents

Petersham Forest (Harvard University) is a 2000-acre parcel that is 35 miles from Harvard's Cambridge, MA dedicated to woodlands research. Researchers from Harvard study forest preservation and often work with state and local government to influence legislation.

¹⁷ Research Links
<http://www.santanarow.com/about/>
<http://www.cityplace.com/AboutCityplace.html>
<http://www.stanfordshop.com/about.aspx>

¹⁸ http://www.heartlandfields.com/soy_health/soy_glossary.html



SOURCE: ECONOMIC RESEARCH SERVICE, USDA
TOP PRODUCING ORGANIC CROPLAND STATES, 2001

Harvard Veterinary School and Primate Research Facility (Southborough, MA) hosts the Veterinary School and Primate Research Center outside of the Cambridge campus and allows Harvard more space for its non-human primate research labs. Even while off-campus, the lab still conducts interdisciplinary research with departments on Harvard’s Cambridge campus.

Harvard Depository Library (Southborough, MA) enables Harvard to purchase and have on-hand, multiple copies and volumes of certain books. The building uses innovative methods to allow for high-density and climate-controlled storage. Harvard has even rented out some of its storage space to the Brown University Library.¹⁹

Resorts

Destination resorts for vacations, conferences, weddings and other events can generate income for the University.

Precedents

Desert Springs Resort (Palm Desert, CA) hosts a major hotel and conference center with 210,000 sq.ft. of indoor and outdoor of flexible meeting, exhibit and banquet space, 833 resort rooms and 51 suites, two 18-hole championship golf courses, and a full-service spa and fitness center.

¹⁹ Research Links
http://harvardforest.fas.harvard.edu/wandw/exec_summ_wandw.pdf
<http://www.hms.harvard.edu/nerprc/>
<http://www.arl.org/preserv/harvard.html>

Deerhurst Resort (Ontario, Canada) is located on an 800-acre setting on Peninsula Lake in Ontario, and has 40,000 square feet of meeting, exhibit and conference space, 32 meeting rooms, 400 guestrooms, 2 ballrooms, a business center, and a full-service spa. It also offers two golf courses and year-round activities.

Canyon Ranch (Tuscon, AZ and Lenox, MA) is a destination health spa and retreat center for inspiring healthy living. They offer fitness classes, nutrition consultation, stress assessments, medical wellness, spa services, cooking classes, guided hiking and biking, golf, tennis, and other sports.

Kripalu Center for Yoga & Health (Lenox, MA) is a “retreat and renewal” destination for fitness, yoga and spiritual healing and expression. The grounds host the Kripalu Center for Professional Training which includes the School of Yoga, School of Massage and School of Ayurveda. It is operated by the Kripalu Yoga Fellowship, a non-profit and charitable organization and is located on the grounds of a former Jesuit seminary in Lenox, Massachusetts.²⁰

Sand and Gravel Mining

Industrial minerals include aggregate (sand, gravel and crushed stone), peat, kaolin clay, dimension stone, and silica sand. Aggregate mining operations occur in nearly every county in Minnesota. Aggregate materials are the essential elements of a variety of construction products, such as concrete. Silica sand, a fine sand composed of quartz, is mined in the southeastern part of Minnesota. Its uses include glass-making, a source of silicon, and improving flow in oil wells.

Precedents

In Minnesota, gravel mining operations are generally under the jurisdiction of the host local government. This entity may have specific regulations for development, operation, or reclamation of a pit. Additionally, a number of state and

²⁰ Research Links
<http://www.desertspringsresort.com>
<http://www.deerhurstresort.com>
<http://www.canyonranch.com>
<http://www.kripalu.org>

federal permits may apply that pertain to water quality, water discharge, wetlands, air emissions and mine safety. Environmental review in the form of an Environmental Assessment Worksheet (EAW) is required for operations that will exceed 40 acres to a mean depth of 10 feet. Local government is responsible for the preparation of an EAW.

There are no statewide requirements or funds for the reclamation of gravel pits in Minnesota. Sand and gravel operations, including reclamation, are most directly handled at the local government (township, city, and/or county) level. Plans for the reclamation of currently active gravel operations may be included as part of the mining plan developed by the pit operator, and may be required by a local government.

While there are no state funds for gravel pit reclamation, 28 counties, including Dakota County, administer the Aggregate Material Tax (Minn. Stat. 298.75). In these counties, 10% of the tax raised from current gravel operations is set aside for the reclamation of abandoned gravel pits on public land. Several gravel pit reclamation projects on public land have been partially funded by the proceeds from this tax.²¹

Counties, townships or municipalities have the primary authority for regulating extractive uses like aggregate mining. In many counties, aggregate mining requires a Conditional Land Use Permit (CLUP) from the county planning and zoning office. A township or municipality may also require a permit in addition to (or instead of) a county permit. Local permits are generally required for new operations that exceed a certain threshold of activity, or for expansion of an existing operation. Local permits may address issues such as hours of operation, noise, traffic, dust, and reclamation.²²

There are over 4,000 gravel pits in the State of Minnesota. Currently, there is no state or federal mining permit in Minnesota that requires aggregate operators to submit a mining plan or to reclaim the site after mining. In

Minnesota, sand and gravel mining is increasingly viewed as a temporary use to be followed by another land use that is compatible with the surrounding landscape.

Once reclamation is achieved and maintained, a variety of land uses may occur on the site. Examples provided by the National Mining Association and the Minnesota Department of Natural Resources are schools, recreation centers, parks, malls, government facilities, airports, housing, golf, and agriculture.²³

Environmental Secondary Schools

Universities build connections with high schools providing preparatory programs focused on environmental education. The partnerships are designed to provide the schools with college-awareness programs geared towards environmental subjects such as environmental science, environmental law, wildlife conservation and environmental justice. The programs include an academic program as well as applied learning experiences.

Precedents

New York High School for Environmental Studies:

- 1,200 students
- The high school has a significant recruitment relationship with the University of Vermont, which recruits students of color and supports growing college prep initiatives, and is also partnered with the University of Rochester, CUNY College NOW, John Jay College.
- Features regular coursework with hands-on learning throughout the city such as recycling initiatives, environmental justice, roof gardening, and ecology.
- Awards: Borough of Manhattan Golden Apple Award/ Department of Sanitation Recycling Award for 2002, 2003, and 2004. Citywide Winners for Envirothon 2002, 2003, and 2004. Manhattan's Top High School Internship Program for 2000.

²¹ Minnesota Department of Natural Resources, Division of Lands and Minerals. http://www.dnr.state.mn.us/lands_minerals/mining.html, accessed March 14, 2006.

²² Minnesota Department of Natural Resources, Division of Lands and Minerals, Environmental Regulations for Aggregate Mining, Fact Sheet 1, January 2001. http://files.dnr.state.mn.us/lands_minerals/aggregate1_mar01.pdf, accessed March 14, 2006.

²³ Research Link
Minnesota Department of Natural Resources, Division of Lands and Minerals, A Handbook for Reclaiming Sand and Gravel Pits in Minnesota, July 1992.

- Model for a growing number of high school environmental programs around the country.

West Seattle High School Environmental Science Academy

- Students have higher attendance and GPA than peers, and have greater interest in college.
- Restored West Seattle's Hamilton Viewpoint to natural state with Parks and Recreation Department and Mithun Architectural Firm - Students won John H. Stanford Education Achievement Award by the Cascade Land Conservancy.²⁴

Slow Food

"A food community is a physically identifiable entity, that shares values, interests and a common purpose, and is engaged—through seed saving, harvesting, breeding, farming, fishing, food processing, food distribution, marketing, education and other eco-gastronomic activities—in bringing small scale food products to consumers." -Carlo Petrini, Slow Food Founder and President.²⁵

Slow Food is an international movement initiated to promote a slower, less frantic lifestyle, and quality food, culture and biodiversity. Slow Food promotes consumer information and protects cultural identities tied to foods. There are a number of international chapters that hold frequent events and give awards that celebrate quality of food and lifestyle.

Slow Food USA is a non-profit organization that supports local farmers, promotes biodiversity, and helps join food producers and consumers interested in promoting quality, healthy foods and lifestyles. Slow Food USA hosts events around the country that celebrate local flavors, provide aid to the hungry and those in need, and educate urban consumers about rural producers.

Terra Madre (Turnin Italy) is an international food festival hosted by the Slow Food organization. Terra Madre hosts

24 Research Links

<http://www.uvm.edu/theview/article.php?id=1403>
<http://www.seattleschools.org/area/news/x30515ws.xml>
<http://www.nycenet.edu/Templates/Schools/Regions/School.aspx?NRMODE=Published&NRORIGINALURL=%2fOurSchools%2fRegion9%2fM400%2fdefault%2ehtm&NRNODEGUID=%7bE100F252-B174-435C-BE1A-62DAC1073567%7d&NRCACHEHINT=Guest>

²⁵ http://www.slowfoodusa.org/events/terra_madre_2006.html
http://www.slowfoodusa.org/events/terra_madre_2006.html

5,000 sustainable food producers, chefs, and university representatives from 150 countries. "In October 2004, Slow Food held the first edition of Terra Madre, a forum for those who seek to grow, raise, catch, create, distribute and promote food in ways that respect the environment, defend human dignity and protect the health of consumers."²⁶

Solar Energy

According to the U.S. Department of Energy, Minnesota has as much usable sunlight as some parts of Texas and Florida. This means the sun can provide a residence with a significant amount of heating and electrical needs on a year-round basis. In Minnesota, per capita consumption of electricity in homes 2001 was 3,902 kWh. Per capita electricity used in homes increased by 1,019 kWh between 1980 and 2001, an annual average increase of 1.5%.²⁷

Solar electricity is expensive in Minnesota and has long payback periods. Cost efficiency of building-integrated Photovoltaics has yet to be realized as compared to fossil-fuel alternatives. It is more cost-effective to provide electricity to a large number of homes using a large-scale centralized utility (solar, wind or other) rather than building-integrated.

Several manufacturers of photovoltaics offer systems that can be integrated into the design of a building. As a construction material, such as a BIPV glass façade, it is an integral component of the building envelope and generates electricity. Hence, it is defined as a multifunctional building material. Building integrated photovoltaics can save money by substituting building components, providing multifunctional potential for insulation, acoustical control, daylighting, shading, reducing roof replacement, waterproofing, fire protection, and wind protection. The National Renewable Energy Laboratory (NREL) reports that building integrated photovoltaics can offer significant cost savings when compared to standalone photovoltaic systems.

26 Research Links

http://www.slowfood.com/eng/sf_ita_mondo/sf_ita_mondo.lasso
<http://www.slowfoodusa.org/>

²⁷ U.S. Department of Energy, Energy Efficiency and Renewable Energy, Minnesota Energy Statistics, http://www.eere.energy.gov/states/state_specific_statistics.cfm/state=MN, accessed February 15, 2006.

A very large-scale photovoltaic system is a photovoltaic system ranging from 10 megawatts up to several gigawatts consisting of one plant or an aggregation of multiple units operating in harmony and distributed in the same district.²⁸ For institutions which have a large amount of undeveloped open space, there are several options of ground mounted solar electric systems. These can often withstand high wind speeds and are often mounted on solar trackers so that the photovoltaic (photovoltaic) modules automatically follow the path of the sun throughout the day. Standalone systems produce power independently of the utility grid. In some off-grid locations one-quarter mile or more from the power lines, standalone photovoltaic systems can be more cost-effective than extending power lines. The U.S. Department of Energy finds they are particularly appropriate for remote, environmentally sensitive areas, such as agricultural applications, large parks, or other rural uses.

Solargenix Energy (Boulder City, NV) is a subsidiary of Acciona Energy SA, said it formally began construction on the 64-megawatt plant in the Eldorado Valley of Boulder City. The \$106 million solar project on 300 acres is scheduled for completion by March 2007, when the Solargenix will begin selling energy to the Nevada Power Company and Sierra Pacific Power Company. The plant is expected to provide enough power for about 40,000 households.²⁹

Sacramento Municipal Utility District (Sacramento, CA) operates a 2-megawatt photovoltaic power plant at Rancho Seco, California. The utility also works with residential and commercial customers on several robust PV programs.

University-Sponsored Conference Centers

Facilities for meetings, conferences, weddings and other events affiliated with universities generate interest in progress in academics and research, and income for the university.

Precedents

The Fawcett Center (Ohio State University) was established as a national prototype for conference centers on major college campuses. The Fawcett Center boasts 40,000 sq.ft. of state-of-the-art conference facilities, including a 500-seat auditorium and 19 multi-function meeting rooms accommodating groups of 10 to 1,000. It is also associated with a 150-room hotel. The center demonstrates the university's commitment to lifelong learning and making the university a resource for the people of Ohio.

The Penn Stater (Penn State University) has 58,000 square feet of meeting space with banquet and meeting amenities, 41 professional conference rooms, a 10,000 sq.ft. ballroom, and a 300-room hotel. Audiovisual equipment and event planning services are included. Associated with the Nittany Lion Inn, a 223-room inn and conference facility run by Penn State, the facility is also part of Penn State's prestigious Hospitality Services Department.

University Place (Indiana University-Purdue University) is located on the campus of Indiana University-Purdue University-Indianapolis in downtown Indianapolis. Twenty eight dedicated self-contained meeting rooms ranging from a 340-seat auditorium to breakout rooms, includes two tiered meeting rooms, two boardrooms, and a ballroom. An upscale hotel with 278 rooms is integrated with the conference center.

The Eric P. Newman Education Center (Washington University Medical Center) has a 450-seat auditorium, a 100-seat auditorium, a 42-seat auditorium, and 12 conference and breakout rooms. There are 220 rooms in an adjacent hotel and 400 additional rooms at nearby hotels with a wide range of amenities and prices. Forest Park is adjacent to the center, with golf, running, hiking and boating, a world-renowned zoo, and museums. Professional football, baseball and hockey are accessible by light rail.³⁰

28 Kurokawa, Kosuke, Energy from the Desert: Feasibility of Very Large Scale Photovoltaic Power Generation Systems, Photovoltaic Power Systems Executive Committee of the International Energy Agency, James and James Limited, London: 2001. http://www.oja-services.nl/iea-pvps/products/download/rep8_01s.pdf, accessed February 15, 2006.

29 "Company breaks ground on \$106 million solar plant in Nevada," SignOnSanDiego, <http://www.signonsandiego.com/news/science/20060212-1801-nv-solarplant.html>, accessed February 15, 2006.

30 Research Links
<http://www.fawcettcenter.com>
<http://www.pshs.psu.edu/>
<http://www.universityplace.iupui.edu>
<http://www.epnec.wustl.edu/>

Utopian Communities

Utopian communities aim to put ideology into practice. They have been in existence for several centuries and have followed different philosophies. In recent history, utopian ideals have included minimizing environmental impact, avoiding suburban sprawl, maintaining natural beauty, maintaining self-sufficiency of inhabitants and community, creating visually appealing architecture and landscape, and fostering community and individuality, while still allowing for privacy.

Landmarks of utopian communities

- 1663 - Twenty communities were founded by religious groups in the U.S., mostly German.
 - 1774 - Mother Ann Lee founded the Shakers, which grew to 6,000 members by 1840s.
 - 1824 - Robert Owen arrived from Britain - secular ideology, promised to transform property and labor relationships.
 - 1840s - Charles Fourier foresaw a harmonious world in which men and women would realize their true natures in communities of approximately 2,500 people.
 - 1841 - Brook Farm, West Roxbury, Massachusetts:
 - Members tried to create alternative to the inequality of modern society
 - Each member owned a share of the property
 - Housing, jobs, food were all shared
 - Intellectual and social activities were of utmost importance
 - Land is currently a state park
 - 1840s - North American Phalanx, Red Bank, New Jersey:
 - Philosophy similar to Brook Farm
 - Consisted of “a stream mill, stables, cow and wagon sheds, forges, carpenter shops, a packing house, a school, a day nursery for working mothers, guest cottages, landscaped gardens and paths, and an artificial pond for bathing, boating and ice harvesting in the winter”
 - Most occupants were of the lower and middle classes
- 1960s - Emphasized notion of collective living as a form of self-fulfillment and personal growth.
 - 1961 - Camphill Village, Copake, New York, is part of the international Camphill movement consisting of more than one hundred communities in twenty-two countries. In this model, coworkers and their children live together in extended family households and work together in a variety of craft shops and work areas.
 - 1970 - Arcosanti, Arizona is an experimental town located in the Arizona desert demonstrating ways to improve urban conditions and reducing negative impacts on the environment. Here, residents work on planning, construction, teaching, computer aided drafting, maintenance, cooking, carpentry, metal work, ceramics, gardening and communications³¹

Wind Energy

Based on the Wind Resource Analysis Program Report issued by the Minnesota Department of Commerce, Minnesota ranked first in the nation in terms of installed wind capacity from 1995-2000. The State of Minnesota is fortunate to have a combination of excellent wind resources, utilities that are buying wind power, an active environmental advocacy community, and an environmentally-aware public. At a time when development is stagnating in other parts of the United States due to uncertainty about the future shape of the electric utility industry, wind projects are being developed here.³²

UMore Park is uniquely positioned to accommodate wind power. Existing wind installations are highly concentrated in a very small geographical area in southwestern Minnesota

31 Research Links
<http://www.answers.com/topic/utopian-communities>
<http://www.artnews.info/gallery.php?i=100&exi=719>
http://www.luhringaugustine.com/index.php?mode=past&object_id=106#
<http://www.arcosanti.org/project/background/history/main.html>
<http://www.arcosanti.org/project/main.html>
<http://www.questia.com/search/utopian-communities->
<http://oregonstate.edu/Dept/philosophy/club/utopia/utopian-visions/robinson-lec.html>
<http://www.massmoments.org/moment.cfm?mid=294>
<http://www.camphill.org/>
<http://www.camphillvillage.org/>

32 <http://www.me3.org/projects/seed/localfease.html>

along the Buffalo Ridge. At present, transmission capacity along Buffalo Ridge is severely constrained and the state is encouraging future energy projects to be much more widely dispersed. UMore Park is located in a region where wind capacity is only slightly less than that of Buffalo Ridge meanwhile providing new opportunities for wind power without having to build new high voltage transmission lines. Finally, UMore Park's proximity to load/demand in the Twin Cities may be attractive to utilities and they may be willing to pay a premium for excess power through a Power Purchase Agreement.

Recently, the University of Minnesota campus in Morris commissioned the University's first large-scale utility turbine. The turbine was completed in April, 2005 and is being used for energy generation on the Morris campus and as a research instrument at the West Central Research and Outreach Center. The turbine was paid for using funds that were earmarked in the legislature for the University. It may be feasible to transfer the efforts and lessons learned during the installation at Morris to UMore Park.

<i>Profile of Wind Turbine at University of Minnesota, Morris</i>
Model: Vestas NM 82
Size: 1.65 Megawatts
Height: 230 feet/70 meters
Blade Length: 135 feet
Anticipated Production: 5.6 million kilowatt-hours
Size of Foundation: 30 feet by 30 feet
Selling price of power to UMN: 4 cents per kWh
Cost (installed): Approximately \$2.7 million

According to the West Central Research and Outreach Center, the following steps should be taken to initiate the process of siting and installing a wind turbine:

1. Perform wind assessment/determine feasibility of wind resource
2. Determine where to sell wind/Creative models for sale of energy
3. Get placed on the MISO waitlist (Midwest Independent Transmission System Operator)

4. Get an RFP for bids on the actual turbine – there is an approximate 1-year lag time to receive the actual turbine.
5. Get an FAA (Federal Aviation Administration) Assessment

Comparison of Wind Conditions in Stevens and Dakota County		
	<i>Stevens County Morris</i>	<i>Dakota County UMore Park</i>
Wind Speed at 80 Meters	17.2 – 18.1 mph	16.3 – 17.2 mph
Capacity Factor at 80 Meters	36.0 – 38.8	33.1 - 36.0%
Estimated Annual Energy Production at 80 Meters	5,525 – 5950 MWh	4,675 – 5,100 MWh

When examining wind conditions for both Stevens County and Dakota County, it is likely that a turbine at UMore Park would be only slightly less efficient than at Morris, yet highly feasible. The reason for this is that the Morris turbine is located on a ridge, and the UMore Park site is not. Other wind turbines have been erected closer to UMore Park, demonstrating the feasibility of harnessing wind power in Dakota County.

In 2004, Carleton College commissioned a 1.65 megawatt turbine. Operated by Xcel Energy, the region's electric utility, the Carleton College wind turbine serves as both an educational tool and a supplier of forty percent of Carleton College's total electrical load. Though Carleton College is a small Minnesota college, enrolling only 1,900 students, its efforts installing a utility-scale wind turbine set precedence in the southeastern Minnesota region for university wind power applications.

Large-scale wind farms can be installed for about \$1,000/kW. The cost of electricity produced from wind farms depends on the annual capacity factor, location/wind quality, maintenance costs, and installation costs, but typically range from 3 to 6 cents/kWh. The cost per unit of electricity generated from smaller turbines is higher than that of larger turbines, so the payback period is longer

if small turbines are installed. Since a well-maintained wind turbine has a life expectancy of 30 years, it can be a profitable investment to install utility-scale turbines.³³ For a site such as UMore Park where the University already owns the property, it is much more cost effective to pursue utility-scale turbine opportunities.³⁴ According to the American Wind Energy Association, to take advantage of economies of scale, wind power facilities should be in excess of 20 MW.³⁵

A utility-scale wind application similar to that of Morris was recently constructed in Hull, Massachusetts with a simple payback of 7.5 years. Hull installed a 1.8 megawatt turbine on the south shore of Boston where wind speeds are almost as great as they are in Dakota County. Wind speeds at the Hull turbine range from 14.5 - 15.7 mph while wind speeds in Dakota County range from 16.3 – 17.2 mph. The turbine at Hull produces approximately 4,410,000 kWh/year.

<i>Typical Costs of Wind Turbines, Installed</i>		
Morris, Vestas NM 82, 1.65 MW	5,600,000 kWh/year	\$2,700,000 installed cost
Hull, Vestas V80, 1.8 MW	4,410,000 kWh/year	\$3,000,000 installed cost
Suzlon 2 MW	6,500,000 kWh/year	\$3,300,000 installed cost
Zond Z-40-FS 500 kW	Good for about 150 homes	\$500,000 installed cost
Bergey Excel 10 kW	Good for one average home	\$35,000 installed cost

Source: Windustry, 2005, Hull Municipal Light and Power, UMM West Central Research and Outreach Center

33 Union of Concerned Scientists, “Farming the Wind: Wind Power and Agriculture Fact Sheet”, http://www.ucsusa.org/clean_energy/renewable_energy_basics/farming-the-wind-wind-power-and-agriculture.html, accessed April 4, 2006

34 California Distributed Energy Resource Guide, California Energy Commission, <http://www.energy.ca.gov/distgen/equipment/wind/cost.html>, accessed February 16, 2006.

35 American Wind Energy Association, Wind Energy Fact Sheet, <http://www.awea.org>.

<i>Comparison of Energy Costs at UMore Park and Morris</i>		
	Stevens County Morris Wind Turbine	Dakota County Xcel Energy
Amount charged per kWh	\$0.04 per kWh (Amount that the University pays for the wind power)	\$0.083 per kWh (summer) \$0.073 per kWh (winter)
Potential savings generated if University generates its own wind power	\$0.043 – 0.033 per kWh	

If it is assumed that UMore Park would be able to generate wind energy in a similar capacity to the Morris wind turbine, the cost savings associated with generating power internally rather than purchasing electricity from the local utility can be estimated. In the UMore Park region, the local electricity provider is Xcel Energy, which charges customers 7.3 – 8.3 cents per kilowatt-hour depending on the time of year. At Morris, the University pays only 4 cents per kilowatt hour and the University owns the distribution lines connecting the turbine to the University’s grid.

Potential Savings (assumption of 20,000 homes for analysis purposes only):

If one uses 20,000 homes as a measurement tool for potential future demand at UMore Park and assumes that each home uses 10,000 kWh/year, then annual cost savings associated with a wind turbine can be estimated as follows:

- 20,000 homes would require 200,000,000 kWh/year.
- With savings ranging from 3 – 4 cents per kilowatt by relying on wind power as an alternative to Xcel Energy, UMore Park could potentially save \$6 – 8 million each year.
- If the Morris wind turbine produces 5,600,000 kWh/year, then 35 wind turbines of the same capacity would be needed to supply all electricity needs for the assumption of 20,000 conventional homes at UMore Park .

- If each utility-scale turbine costs an average of \$3 dollars installed, then to construct a wind farm containing 35 of these turbines would cost approximately \$105 million.
- Assuming savings of 3 - 4 cents per kilowatt-hour through wind power, thus assuming a \$6-8 million annual savings, the simple payback for UMore Park would be approximately 13-17 years.

Potential Siting Needs (assumption of 20,000 homes for analysis purposes only):

Using 20,000 homes again as a basis, it is estimated that approximately 35 wind turbines similar to that of Morris would be required to meet all energy demands.

The minimum spacing requirements between utility-scale turbines are 3 rotor diameters. The rotor diameter of the typical utility-scale turbine is 82 meters. However, in order to harness the most wind energy, it is often more ideal to space wind turbines 5 – 7 rotor diameters apart.³⁶ Because the foundation and the turbine in and of itself only requires a small footprint of 30 feet by 30 feet, then siting needs should be based on the distance required between multiple turbines to generate the greatest amount of energy.

<i>Spacing Needs between Utility-Scale Wind Turbines</i>		
3 rotor diameters	5 rotor diameters	7 rotor diameters
246 meters (807 feet)	410 meters (1,340 feet)	574 meters (1,800 feet)
X 35 turbines = 8,610 meters 5.3 miles	X 35 turbines = 14,350 meters 8.9 miles	X 35 turbines = 20,090 meters 12.5 miles

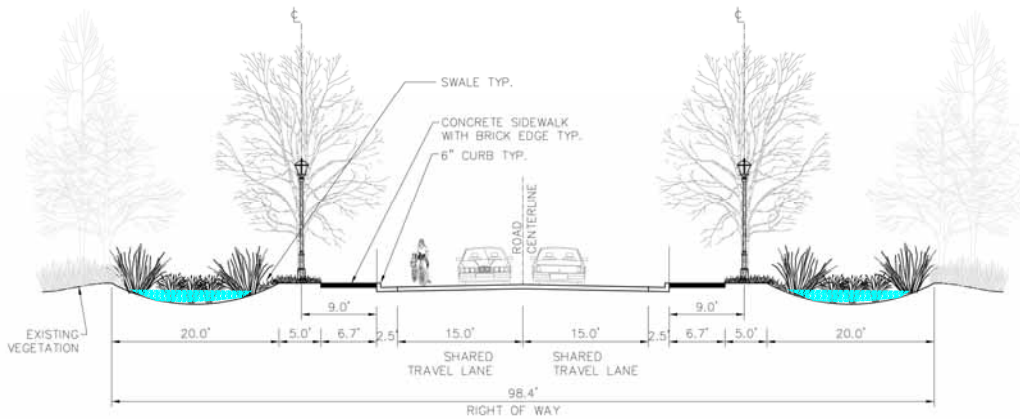
*Turbines are often spaced in a linear manner; however, if the topography is flat, there is no advantage to any specific layout.

36 Diversified Energy Solutions, LLC, Phone Call on April 4, 2006.

Following are excerpts from presentations made to the UMore Park Steering Committee during the course of the planning process. This presentation identifies program elements that might be constructed at UMore Park.

Stormwater + LID | On-site Management

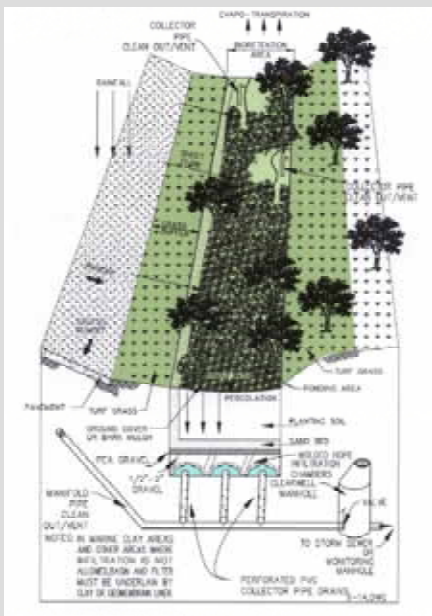
- Develop landscape strategies to treat stormwater on-site using swales, biofiltration, detention basins, and pervious paving



UNIVERSITY OF MINNESOTA

SASAKI

Stormwater + LID | On-site Management



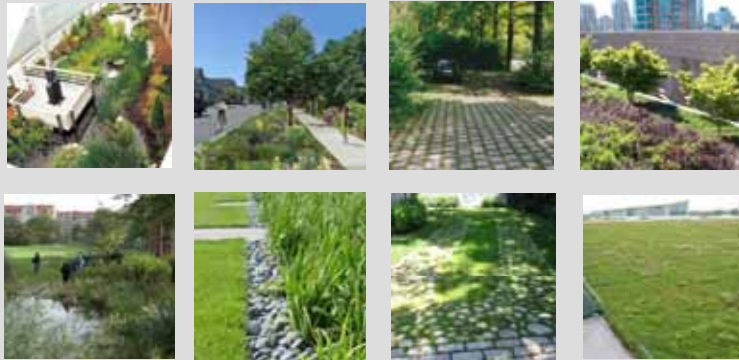
- Use biofiltration where possible to ensure groundwater recharge and to reduce out-of-basin transfer through stormwater drains.
- Engineer locations to improve infiltration conditions—bio-retention ponds, wet swales, filter strips, infiltration trenches, install dry wells for roof run-off.

UNIVERSITY OF MINNESOTA

SASAKI

Stormwater + LID | Biofiltration

- Minimize hardscapes and utilize pervious paving.
- Research shows approximately 10 percent impervious area in a watershed yields demonstrable degradation.

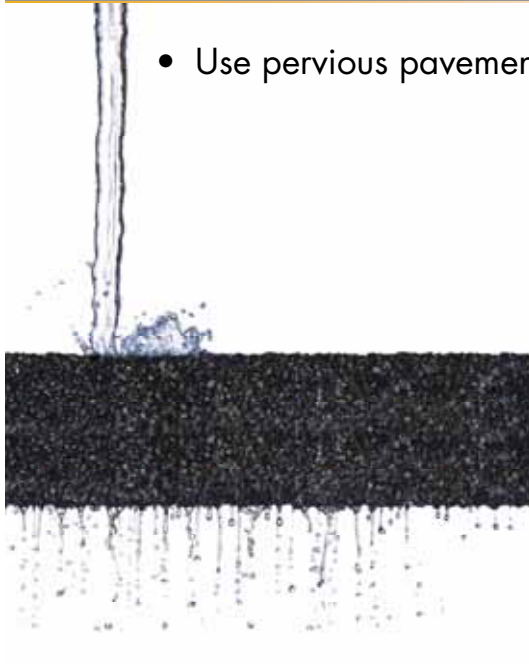


UNIVERSITY OF MINNESOTA

S A S A K I

Stormwater + LID | LID Design

- Use pervious pavement where pavement is necessary
 - Pavers and porous concrete can be used in parking lanes, alleys and driveways.
 - Porous concrete or porous asphalt is recommended for sidewalks and can be used on multi-use paths.
 - Footpaths, bike paths, and remote or overflow parking areas need no paving.



UNIVERSITY OF MINNESOTA

S A S A K I

Stormwater + LID | LID Design

- Design sidewalk, driveway and parking lot flows to drain away from street gutter and pipe systems into vegetated swales or bioretention areas.



- Consider curbless roads or slotted curbs where necessary.
- Utilize shared parking or gravel parking to improve drainage and reduce impervious area.



UNIVERSITY OF MINNESOTA

S A S A K I

Stormwater + LID | Living Machine

- Treat wastewater through biological processes

Living Machine

Reduces need for infrastructure expansion



UNIVERSITY OF MINNESOTA

S A S A K I

Stormwater + LID | Greenroofs

- Introduce green roofs where possible. Greenroofs reduce energy costs, runoff, and enhance habitat.



UNIVERSITY OF MINNESOTA

S A S A K I

1 | Residential Development



- Traditional Neighborhood Development
- Rural Hamlet
- Utopian Communities
- Co-Housing
- Lifestyle Centers
- University-Associated Housing
- Continuing Care Retirement Centers
- Cold-Climate Architecture
- Large-Scale Sustainable Communities



Traditional Neighborhood Development

- **Dense, walkable, neighborhood development designed to preserve wilderness and farmland between towns.**
- **Designed around a clear public center.**
- **Employment, recreation, and stores are all within walking distance from one's home.**
- **Include a wide range of architectural styles.**



UNIVERSITY OF MINNESOTA

S A S A K I

1 | Residential Development



- Traditional Neighborhood Development
- Rural Hamlet
- Utopian Communities
- Co-Housing
- Lifestyle Centers
- University-Associated Housing
- Continuing Care Retirement Centers
- Cold-Climate Architecture
- Large-Scale Sustainable Communities



Utopian Communities Brook Farm, West Roxbury, MA. 1841

- **A utopian society where people could share together to have a better lifestyle.**
- **Based on the concept of self-reliance**
- **Alternative to the inequality of modern society**
- **Each member owned a share of the property**
- **Housing, jobs, food were all shared**
- **Intellectual and social activities were of utmost importance**
- **Currently a state park**



1 | Co-Housing



- Traditional Neighborhood Development
- Rural Hamlet
- Utopian Communities
- Co-Housing
- Lifestyle Centers
- University-Associated Housing
- Continuing Care Retirement Centers
- Cold-Climate Architecture



Co-housing Principles

- **Residents participate in design and operations of their neighborhoods.**
- **Physical design encourages social interaction and individual space.**
- **Design includes private homes and common indoor and outdoor central spaces.**



1 | Residential Development



- Traditional Neighborhood Development
- Rural Hamlet
- Utopian Communities
- Co-Housing
- Lifestyle Centers
- University-Associated Housing
- Continuing Care Retirement Centers
- Cold-Climate Architecture
- Large-Scale Sustainable Communities



Lifestyle Centers Santana Row, San Jose, CA

- **Third Street Promenade**
- **Mixed-use lifestyle center: residential units (apartments, condos, and townhouses), 66 shops, 18 restaurants, 5 spas, and a hotel.**
- **Shops are typically high-end retailers: Gucci, Woldford, and Burberry. Restaurants cover a wide range from Chili's to the Straits Cafe.**
- **Pedestrian-oriented streets, farmers' market, open air concerts and events.**



UNIVERSITY OF MINNESOTA

S A S A K I

1 | Residential Development



- Traditional Neighborhood Development
- Rural Hamlet
- Utopian Communities
- Co-Housing
- Lifestyle Centers
- University-Associated Housing
- Continuing Care Retirement Centers
- Cold-Climate Architecture
- Large-Scale Sustainable Communities



University-Associated Housing U-Town, University of British Columbia

- **Construction of new residential and new academic buildings, and includes the planning of eight new neighborhoods in addition to nearly 2.5-million SF of academic and research facilities within the 1,000-acre campus.**
- **99-year leases for residential and commercial uses.**
- **Expected to generate \$400-million for the UBC endowment.**
- **50% of new market and non-market housing is targeted for people who work or study on campus, reducing commuting to and from campus.**
- **A trust oversees development and management of U-Town.**
- **Community amenities are intricately linked to University services and campus life.**



UNIVERSITY OF MINNESOTA

S A S A K I

1 | Residential Development



- Traditional Neighborhood Development
- Rural Hamlet
- Utopian Communities
- Co-Housing
- Lifestyle Centers
- University-Associated Housing
- Continuing Care Retirement Centers
- Cold-Climate Architecture
- Large-Scale Sustainable Communities



University-Associated Housing: Retirement Communities University of Michigan "University Commons"

- "University Commons" condos for residents 55 and older
- 92 condominiums on 18 acre wooded site, 7 acres of permanent woodlands
- Markets "elegant, thoughtful design and quality"
- Evokes Nostalgia for the University



1 | Residential Development



- Traditional Neighborhood Development
- Rural Hamlet
- Utopian Communities
- Co-Housing
- Lifestyle Centers
- University-Associated Housing
- Continuing Care Retirement Centers
- Cold-Climate Architecture
- Large-Scale Sustainable Communities



Continuing Care Retirement Centers (CCRC) Longwood at Home, Pittsburgh Area

- Provides "Without Walls" CCRC care in one's own home, in addition to on a residential campus
- Three separate plans to chose from, depending on needs
- Offers homemaker, home health services, companion services, emergency response, adult day care, assisted living and skilled nursing care, home maintenance, social and wellness programs



1 | Residential Development

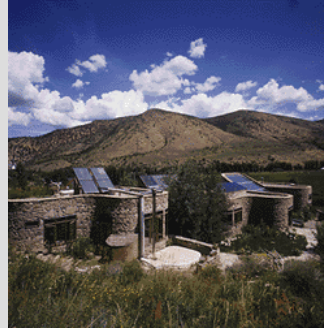


- Traditional Neighborhood Development
- Rural Hamlet
- Utopian Communities
- Co-Housing
- Lifestyle Centers
- University-Associated Housing
- Continuing Care Retirement Centers
- Cold-Climate Architecture
- Large-Scale Sustainable Communities



Cold-Climate Architecture Rocky Mountain Institute, Snowmass, CO

- **Completed in 1984,, the Rocky Mountain Institute building is a state-of-the-art showcase of efficiency techniques which increase comfort and enjoyment while saving money and resources.**
- **4,000-square-foot building is passive solar, superinsulated, and semiunderground for microclimatic reasons.**
- **Windows have a special glazing designed to maximize solar heating in cold climates.**
- **Building cost was still below local median for custom buildings.**



1 | Residential Development



- Traditional Neighborhood Development
- Rural Hamlet
- Utopian Communities
- Co-Housing
- Lifestyle Centers
- University-Associated Housing
- Continuing Care Retirement Centers
- Cold-Climate Architecture
- Large-Scale Sustainable Communities



Large-Scale Sustainable Communities Viikki, Helsinki, Finland

- **Community founded in 1993**
- **Currently 7,000 residents; projected to increase to 15,000 by 2015**
- **Includes extension campus of University of Helsinki and a biotechnology park**
- **Building standards require reductions in pollution and energy consumption**
- **Buses and train lines connect to downtown Helsinki**



2 | University-Affiliated High School Education

Secondary Schools

West Seattle High School Environmental Science Academy
University of Hartford High School of Science and Engineering



- Secondary Environmental School
- Lifelong Learning
- Transportation Center & School
- University-Sponsored Magnet School
- Visiting/Learning Center



2 | Non-University Education

Life-Long Learning Elderhostel



- Secondary Environmental School
- Lifelong Learning
- Transportation Center & School
- University-Sponsored Magnet School
- Visiting/Learning Center



3 | Agriculture



- Breadbasket
- Organic Farming
- Micro-farming
- Slow Food Movement
- Community Supported Agriculture
- Agriculture Education
- Agritourism

Local Food Systems

- **Breadbasket:** a geographic region serving as a principal source of food supply.
- **1,300:** Average number of miles food in the U.S. travels from the farm to the market shelf.
- **85-90:** Percentage of food most states buy from someplace else.



UNIVERSITY OF MINNESOTA

SASAKI

3 | Agriculture



- Breadbasket
- Organic Farming
- Micro-farming
- Slow Food Movement
- Community Supported Agriculture
- Agriculture Education
- Agritourism

Agritourism

- **Definition:** tourism based on attracting visitors to farm operations
- **Creates added revenue for farmers**
- **Educates non-farmers about agriculture**
- **Attracts an international community – historically more popular in Europe**
- **Can provide year-round revenue**
- **Takes many different forms, applies to wide audience**
- **Creates network and community for farmers**



UNIVERSITY OF MINNESOTA

SASAKI

4 | Gravel and Mining

Post-Mining Land Uses on Reclaimed Sites

- School
- Recreation Center
- Park
- Mall
- Government Facilities
- Airports
- Housing Developments
- Golf Course
- Agriculture
- Water - ponds and lakes



- Introduction
- Post-Mining Land Uses
- Progressive Reclamation
- Key Concerns



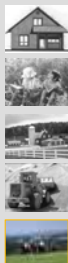
UNIVERSITY OF MINNESOTA

SASAKI

5 | Recreation and Open Space

Equestrian Facilities

- Revenue from horse boarding
- Opportunities for summer/winter camps
- Year-round facilities increasingly popular
- Attract urban population without their own yards, paddocks – Bronx Equestrian Center
- Trend of Equestrian Therapy on humans
- Trend of environmentally friendly facilities
 - Recycle waste and materials
 - Help improve water quality



- Equestrian Facilities
- Public Open Space



UNIVERSITY OF MINNESOTA

SASAKI

6 | Tourism



- University-Associated
- High-End Resort
- Hospitality Accommodations



University-Associated Conference Center The Penn Stater, Penn State University

- 58,000 square feet of meeting space with banquet and meeting amenities
- Audiovisual equipment and event planning services.
- 41 professional conference rooms, 10,000-square-foot ballroom and 300-room hotel
- Associated with the Nittany Lion Inn, a 223-room inn and conference facility run by Penn State.



6 | Tourism



- University-Associated
- High-End Resort
- Hospitality Accommodations



Specialty Resorts and Spas Deerhurst Resort, Ontario Canyon Ranch, Lenox, MA

- Lovely natural settings
- Meeting, exhibit & conference space
- Year-round and seasonal activities
- Destination health spa and retreat center for inspiring healthy living.

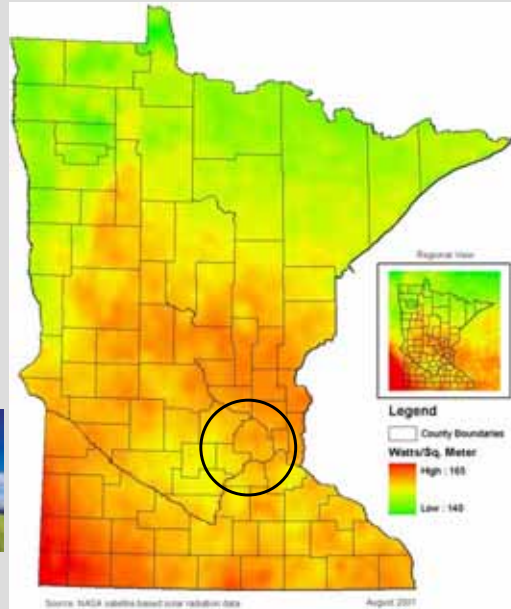


7 | Alternative Energy Sources

Solar Energy

Minnesota's Annual Average Solar Isolation, 1998-2000

- Photovoltaic (PV) technology uses the energy carried by sunlight to produce electricity.
- A typical Minnesota home consumes around 700 kilowatt-hours (kWh) of electricity each month or 25 kWh per day.
- A very large-scale PV system is defined as a PV system ranging from 10 megawatts up to several gigawatts consisting of one plant or an aggregation of multiple units operating in harmony and distributed in the same district.
- This could be a feasible application for UMore's energy needs.



- Solar
- Biomass
- Wind



7 | Alternative Energy Sources

Biomass Potential at UMore

- Conversion of biomass (plant-derived material) to valuable fuels; crops like corn and soy beans, and waste from consumer, municipal, industrial, and agricultural processes.
- A "greenhouse neutral" option for generating electricity because biofuels are derived from organic materials
- Cost competitiveness of bioenergy increases when energy generated is used on site rather than distributed
- UMore is rich in agriculture and forestry resources.
- The National Renewable Energy Laboratory states that there is enough residual biomass in Minnesota to produce 99% of total electricity used in the state.

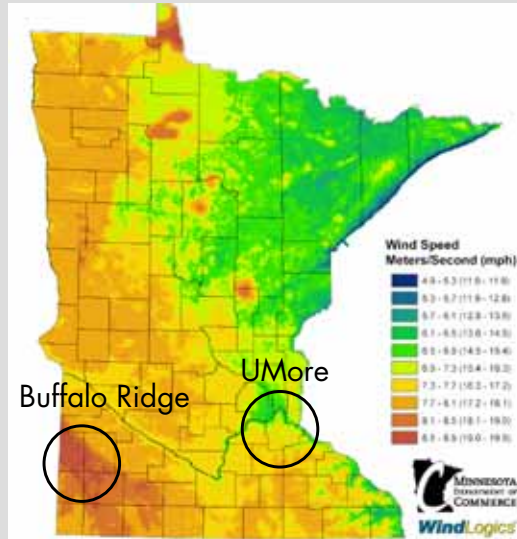


- Solar
- Biomass
- Wind

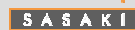
7 | Alternative Energy Sources

Wind Energy

- Turbines provide significant amounts of energy using only the natural power of the wind.
- Minnesota currently has 710 MW of wind power, including a turbine at Carleton College.
- UMore is well positioned to capture and utilize energy from local wind patterns.



- Solar
- Biomass
- Wind



8 | University-Associated Research Parks

University of Wisconsin Research Park

- Established in 1984
- Originally 351 acres
- 255 acres developed
- 34 buildings
- 1.5 million of square feet under roof
- \$160 million value
- \$3.5 million per year paid in property taxes
- 110 tenants
- More than 5,300 employees
- More than \$318 million in annual payroll



- University-Associated Research Parks
- Flexible Interdisciplinary Research Space



9 | Other University Uses

Remote Departments Petersham Forest, Harvard University

- 2000 Acres dedication to conservation and agricultural research
- Primate research
- Climate controlled books and record storage



• Remote Departments
• Storage



10 | Arts and Culture

Regional Centers for Art and Culture Chautauqua Institution, Chautauqua, NY Tanglewood, Lenox, MA

- Lovely natural settings
- Day and overnight destination for enjoying arts and culture, schools for the arts, and recreation.



• Arts & Culture Centers



UMore Park | A Community of the 21st Century

A community that draws its inspiration from the best minds at a great university, and that responds to the major challenges of our time: healthy living, education, and energy

- UMore Park will contribute to a better future for the residents of Minnesota as they face the emerging economic, social, environmental and globalization challenges of the 21st century.
- UMore Park is envisioned as a place in which the University collaboratively engages its expertise in teaching, research and outreach across all disciplines in the creation of a new “city” dedicated to educational excellence, renewable energy, and healthy lives.
- UMore Park will be a place to discover, invent, design, build and evaluate the physical, socio-economic and institutional “infrastructure” of the 21st century.



4.4 POTENTIAL FOR ARTS AND CULTURE PARKS

The Twin Cities region is host to a diverse and thriving cultural life. Seven of its arts institutions including the Minneapolis Institute of Arts, Walker Art Center, Minnesota Orchestra, Saint Paul Chamber Orchestra, Minnesota Opera, Guthrie Theater and Children's Theatre Company – are internationally recognized in their fields. Just as importantly, there are hundreds of smaller organizations and individuals that write, paint, sculpt, sing, dance and perform throughout the area. All of these groups greatly enhance the region's quality of life, while bringing nearly \$1 billion into the Minnesota economy every year.³⁷

Minnesotans have played a significant role in encouraging the diversity of cultural offerings. The University of Minnesota's Minnesota Center for Survey Research conducted a survey in 1998 which found that 92% of Minnesotans believe that the arts are important to their quality of life. The survey also found that 60% of Minnesotans are involved in the arts by engaging in some creative activity in their everyday lives. This exceeds the national average of 50% for arts participation.

As the University of Minnesota contemplates the direction of its Rosemount site, it is important to assess the existing cultural venues, their regional support networks, and the characteristics that make the Twin Cities artistically unique.

Existing Venues

According to the Minnesota State Arts Board, the Twin Cities region has approximately 25 performance spaces for music, dance, opera, theater, media arts and literature. On the whole, these venues are either large (1,500 seats or greater) or small (300 seats or less), with little in between. The largest venues include the University of Minnesota's Northrop Auditorium, Orchestra Hall (home of the Minnesota Orchestra), and the Main Hall at the Ordway Center and O'Shaughnessy Auditorium at the College of

Saint Catherine, with 4,769, 2,450, 1,900, and 1,750 seats, respectively.³⁸ (See Appendix, Tables 1 and 2) The area also features a variety of art museums and galleries, including the Walker Art Center, the Minneapolis Institute of Arts, and at least 25 commercial galleries. These venues may compete with the proposed venue at UMore Park, but their tenants represent prospective performers for the subject site.

The past five years have seen tremendous expansion in the Twin Cities' arts facilities. In April 2004, the Walker Art Center completed an expansion and renovation of its galleries by Herzog and de Meuron. The facilities now include eleven galleries and a performance space for contemporary visual and performance artists. Likewise, the Minneapolis Institute of Arts currently is constructing a new wing that will add 34 new galleries and expand its exhibition space by 40%. In October 2005 the Children's Theater Company also completed a \$24 million expansion. On the performing arts side, the acclaimed Guthrie Theater will relocate from its current site near Loring Park to a new \$125 million theater overlooking the Mississippi River in June 2006.

In addition to expansions of existing cultural institutions, the new artistic ventures have developed in the Twin Cities. In 2002, an area businessman founded the Museum of Russian Art to showcase his personal collection of Soviet-era art. It recently moved to a renovated church structure in south Minneapolis.³⁹ In addition, the newly-founded Minnesota Shubert Performing Arts and Education Center currently is undertaking the relocation and redesign of the historic Shubert Theatre in downtown Minneapolis. The new Shubert Performance Center will host dance performances and support the region's burgeoning dance community, in addition to providing performance, rehearsal and administrative offices for Minnesota arts organizations.⁴⁰

³⁷ Minnesota State Arts Board, <http://www.arts.state.mn.us/about/facts.htm>.

³⁸ Minnesota State Arts Board, http://www.mnarts.us/space_action.cfm.

³⁹ "New Museum Showcases Russian Art," *ExploreMinnesota.com*, August 9, 2005. <http://www.exploreminnesota.com/9Aug200510.html>

⁴⁰ The Minnesota Shubert Performing Arts and Education Center, <http://www.minnesotashubert.org/Vision/Vision.htm>

Finally, there are a variety of large-scale, indoor and outdoor venues for music and other performances. In the cities of Minneapolis and St. Paul alone, there is an amphitheater, two arenas and two stadiums. Each of these hosts performances by renowned musicians and artists as well as athletic contests. These sites may compete with a Rosemount venue because they capture a significant part of the arts-going population – especially among the younger generations – but a facility at UMore Park could fill market gaps that these venues are missing, or provide better facilities for similar events. Further analysis is required to determine the extent of opportunities in this area.

Regional Support for the Arts: Foundations

Foundations and arts organizations throughout the Twin Cities region support and utilize the area's creative facilities. In 2004, the National Endowment for the Arts gave \$3.5 million and the Minnesota state government gave approximately \$17.2 million to the arts. In addition, more than 135 private foundations give money to arts organizations in the state, the most prominent of which include the McKnight Foundation, Bush Foundation, Jerome Foundation, Target Foundation and Corporation, General Mills Community Action, and Minneapolis Foundation. 250 corporations also support the arts by participating in the Minnesota Keystone Program, through which they donate 2-5% of their pretax profits to the community.⁴¹

Compositely, Minnesota grant makers gave \$112 million to arts, culture and humanities organizations in 2003. 39% of this money went to performing arts organizations, and 23% went to museums. Another 10% went to arts and cultural organizations.⁴² Arts grants represented 13% of all grant funding in the state, the same percentage as was given nationwide.

41 Minnesota Citizens for the Arts, <http://www.mtn.org/mca/factspgs/mnsluvarts.html#Summary>

42 "Minnesota Arts Grantmaking," Minnesota Council on Foundations, 2006. <http://www.mcf.org/mcf/giving/reports/arts03.pdf>

Regional Support for the Arts: Artists Networks and Organizations

While public and private funding provide a foundation for artistic efforts, it is the arts organizations themselves that make the Twin Cities arts scene vibrant. The region is home to 66 theaters and theater companies, 28 musical performing groups and more than 12 dance companies.⁴³ Thousands of writers also call the region home.

A number of unique, non-profit organizations support and augment these arts groups and individuals. Artspace Projects, Inc. strives to create, foster and preserve affordable space for artists and arts organizations by redeveloping warehouse buildings into artists live/work space in Minneapolis. It is now the nation's leading non-profit real estate developer for the arts.⁴⁴ Another unique non-profit supporting Twin Cities artists is Open Book. Members of the Loft Literary Center, Milkweed Editions and the Minnesota Center for Book Arts founded Open Book in 2000 to support the region's writing community. Located in a former factory near downtown Minneapolis, Open Book contains a performance hall and exhibition gallery, a resource library, classrooms and individual studios for writers, as well as book printing facilities. It is the first facility in the nation dedicated to literary arts.⁴⁵

St. Paul has a thriving art community as well, which can be attributed to the dedication and involvement of individual artists, supporting foundations, private owners, as well as growing interest from the City. The St. Paul Art Collective organizes the Art Crawl – a self-guided tour of almost 200 artists' studios in 22 buildings in downtown St. Paul and Lowertown. The Art Crawl has been an annual event since 1991 and draws about 14,000 people during the event's 3-day period. The growth of the art community in St. Paul Springboard for the Arts' – a non-profit whose mission is to cultivate a vibrant arts community by connecting artists with the skills, contacts, information and services they need to make a living and a life, is also based in St. Paul.

43 Explore Minnesota, <http://www.exploreminnesota.com/Attractions> and "A Home for the Performing Arts," The Minnesota Shubert Performing Arts and Education Center, http://www.minnesotashubert.org/minnesotashubert/archives/mns_article_2.pdf

44 Artspace Projects, Inc., <http://www.artspaceusa.org/about/>

45 Open Book, <http://www.openbookmn.org/>

Finally, arts advocacy groups play a broader role in strengthening the regional arts scene. Minnesota Citizens for the Arts is among the foremost, and is a statewide arts advocacy organization that organizes the arts community to lobby the Minnesota State Legislature and Congress to improve access to and involvement in the arts.⁴⁶ The Minnesota State Arts Board and the state's eleven regional arts councils also serve to promote and fund the arts throughout the state. Lastly, the Arts Midwest arts council serves to connect the arts to audiences throughout the nine states of Illinois, Indiana, Iowa, Michigan, Minnesota, North Dakota, Ohio, South Dakota and Wisconsin.⁴⁷

Regional Arts Niches

According to Ann Markusen, a professor at the Hubert H. Humphrey Institute of Public Affairs at the University of Minnesota, it is important to examine the strength and nature of a region's artistic community before making investments in the arts.⁴⁸ In recent decades, many artists have moved away from the traditional artistic capitals – namely New York City and Los Angeles – and into second-tier metropolitan areas such as Minneapolis-St. Paul. The primary attractions of these cities are their affordability, high levels of amenities and existing networks amongst artists. Universities also play an important role in attracting artists, many of whom remain after completing their studies.

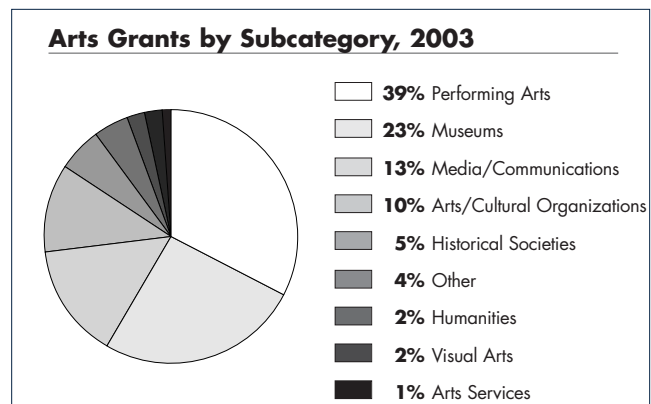
In many cities, these factors have resulted in artistic concentrations or specializations. According to the 2000 Census, the Twin Cities' primary artistic specialization is writing, with a secondary specialization in dance. On the whole, the Twin Cities have an over-representation of artists compared to national levels, especially of authors.⁴⁹

46 Minnesota Citizens for the Arts, <http://www.mtn.org/mca/>

47 Arts Midwest, <http://www.artsmidwest.org/about/about.asp>

48 The following analysis is taken from *The Artistic Dividend: The Arts' Hidden Contributions to Regional Development* by Ann Markusen and David King (July 2003) and *The Artistic Dividend Revisited* by Ann Markusen, Greg Schrock and Martina Cameron (March 2004).

49 The Twin Cities have a location quotient (LQ) of 1.16 for artistic occupations. By sector, the LQ is 1.33 for authors; 1.16 for musicians; 1.12 for performing artists; and 1.10 for visual artists. A location quotient indicates over-representation (1.0 or more) or under-representation (less than 1.0). In this case, the Twin Cities' location quotient value indicates that they have a greater share of artistic occupations in the regional economy versus their share in the national economy.



MINNESOTA ARTS GRANT MAKING, MINNESOTA COUNCIL ON FOUNDATIONS, 2006.

Markusen argues that these artistic niches should inform cities' strategies to promote artists' organizations and nurture the amenities that attract and keep artists in the region. This is economically important because artists' decisions to live in certain regions may be a stimulant to new firm foundation. Moreover, depending on the regional context, it may be better to invest in artist live/work space than in large performing arts centers because strengthened artistic networks will bolster the region's economy and quality of living.

Economic Impact of the Arts in Minnesota

The state's 30,000 artists and more than 1,600 arts organizations have a significant direct and indirect impact on the Minnesota economy. Arts events attract businesses, visitors and new residents and encourage consumer spending, all of which result in increased tax revenues. Cultural offerings enhance the market appeal of an area, encouraging business relocation and generation of new jobs.⁵⁰ On the whole, arts activities represent a significant advantage for cities and states trying to distinguish themselves in the competitive field of economic development.

According to a study commissioned by the Minnesota Citizens for the Arts and the Forum of Regional Arts Councils of Minnesota, 14.5 million people attended arts and cultural events in the state in 2004. The resulting economic impact was \$838.5 million, \$485.8

50 Minnesota State Arts Board, <http://www.arts.state.mn.us/about/facts.htm>.

million of which was direct income generated by cultural organizations, and \$352.7 million of which was indirect income generated by audiences' event-related spending. This cultural income supported 22,095 jobs, generated \$631.1 million in household income to local residents, and delivered \$94.1 million to state and local government.⁵¹

While the arts have a significant impact throughout Minnesota, the Twin Cities metro area has an especially robust culture economy. In 2004, arts organizations and their audiences generated \$719.5 million and created 19,000 jobs. This provided \$568.7 million in income to the area's residents and generated over \$79 million in tax revenue for state and local governments. Beyond ticket prices, audience members spent \$22.58 per person on average at each event they attended. One-fifth of all event attendees lived outside of the Twin Cities' seven county metro area.⁵²

As these statistics would indicate, the majority of cultural economic support comes from within the Twin Cities metropolitan region. However, the arts play a critical role in attracting tourists and fueling the local tourist industry. Indeed, five of Minnesota's top tourist attractions – the Walker Art Center, Guthrie Theater, Ordway Center, Orchestra Hall, and the Children's Theatre – are arts organizations. These cultural tourists spend more than 30% more per trip than the average traveler.⁵³

Performing Arts Trends

In addition to regional statistics on the arts, it is important to use national trends to evaluate the potential success of an arts and culture center at Rosemount. The following section outlines a number of key findings.

Shrinking Size of Arts Organizations

According to a comprehensive overview of the performing arts commissioned by the Pew Charitable Trusts in 1999

51 "The Arts: A Driving Force in Minnesota's Economy," Minnesota Citizens for the Arts and the Forum of Regional Arts Councils of Minnesota (2006), i-iii.

52 *Ibid.*, xx, xxii.

53 On average, cultural tourists spend \$614 per trip versus \$425 for other tourists. Minnesota State Arts Board, <http://www.arts.state.mn.us/about/facts.htm>

titled, "The Performing Arts in a New Era", there has been a recent flood of small organizations with low operating budgets. Data from the National Center on Charitable Statistics indicate that the number of non-profit arts organizations in Minnesota grew at an average of about 7% each year from 812 organizations in 1996 to 1,466 organizations in 2005, just under nationwide growth of 8% over the same time period.

Decreasing Number of Artists

Over the last two decades, the percentage of arts professionals in the labor force grew from 0.9% in 1980 to 1.4% in 2000. According to the Americans for the Arts Creative Industries report, over 58,000 Minnesota residents are working in the arts in 2006, an estimated decrease of 7% over the previous year. Nationwide, the number of people working in the arts decreased by 3%.⁵⁴ This contrasts with the growth that occurred in the United States between 1970 and 1990, when the number of self-proclaimed professional artists doubled to 1.6 million, 261,000 of which were performing artists.

Generally speaking, performing artists earn considerably less and experience higher unemployment than other professionals with comparable education levels. A select number of "superstars" tend to capture a significant portion of the arts market income.

Disparate Audiences

Large and small arts organizations tend to target very different constituencies. Large performing arts organizations will often use marketing strategies that prioritize blockbuster productions, popular artists and sellout audiences. Small organizations increasingly rely on niche programming that targets small, local audiences.

Steady Audience Participation

According to "The Performing Arts: Trends and Their Implications", a report by the non-profit research

54 Creative Industries is composed of arts-centric businesses that range from non-profit museums, symphonies, and theaters to for-profit film, architecture, and advertising companies. It excludes industries such as computer programming and scientific research—both creative, but not focused on the arts.

organization RAND, there has been an increase in attendance levels at live performances throughout the past few decades. Unfortunately, much of the increase correlates to population growth and the share of the population attending live performances has not actually increased. Increasing education levels should create more demand for the arts, since higher educational attainment is correlated to higher performing arts attendance rates. However, Americans increasingly are turning to entertainment options such as museums and at-home entertainment which give them greater flexibility and convenience. This is especially true for the younger generations, and may mean that the performing arts will come under increasing financial pressure in the future. Ethnic diversity also may impact the future of the performing arts. Since 40% of the population growth in the United States comes from immigration, this will certainly have an affect on artistic tastes.

The results of the most recent National Endowment for the Arts (NEA) 2002 Survey of Public Participation in the Arts (SPPA) found that 39% of Americans 18 years or older – roughly 81 million people – attended a jazz or classical music concert; went to an opera, musical, play, or ballet; or visited an art museum at least once in 2002.⁵⁵ Echoing the RAND study, the NEA found that, as the population has increased, the total percentage of the population attending performances has remained fairly constant. On the positive side, the NEA SPPA survey indicates that participation in the arts increased from 4% to 16% between 1982 to 1997.

Uncertain Future for Middle Tier Organizations

Moving forward, the biggest change in the performing arts industry, according to *The Performing Arts in a New Era*, will be in the middle tier of non-profit arts organizations, particularly opera companies, symphony orchestras, ballet companies, and theater groups located outside major metro areas. Reductions in demand, rising costs, and static or decreasing funding will force these institutions either to become larger and more prestigious, or to become smaller

and more community-oriented, using local talent to keep costs down and adapting programming to local audiences.

Cost-Benefit Analysis of the Performing Arts

Over the past decade, there have been many studies conducted about the real value of the performing arts, especially of non-profit theaters, ballet, opera, and classical music organizations. The studies recognize that these organizations have positive social, cultural and economic impacts on communities. To quantify the economic impacts, the following section conducts a cost-benefit analysis of the performing arts. To do so, it looks beyond the bottom line of individual organizations or venues and analyzes the overall viability and real economic impact of arts and cultural organizations as a whole.

Driven by Demand

The amount of demand for the performing arts defines their role in the community. However, demand encompasses more than audience attendance. Those who participate in the arts do so in a variety of ways that include attendance, participation, and support through either donations of time and or money. Of course, these different types of involvement can, and often do, overlap. Analysis of participation in the arts also depends on the definition of what performing arts are. Putting all these factors together sheds light on who participates in the performing arts and what drives demand.

Influences on Participation

The performing arts, as defined by the NEA, traditionally include jazz; classical music; opera; musical theater; professional, amateur and community theater; ballet; and other dance. Using this definition, a study commissioned by the Pew Charitable Trusts entitled “The Performing Arts in a New Era” determined demand for the performing arts industry. The study found that the key factors influencing patterns of audience participation in the arts are:

- Changes in the size and composition of the population

⁵⁵ These data are based on a nationwide sample of 17,135 people 18 years old and above.

- Preferences for the arts and art forms
- Practical considerations such as supply, cost, time, income and knowledge
- Individual experience, including education and/or prior arts experience

Traditional theories have held that education is the largest influence in predicting participation in the arts – the higher the levels of education, the higher the levels of participation, especially within the performing arts. This correlation has begun to break down in recent years. Other factors impacting arts attendance include age and gender.

Beyond Traditional Definitions of the Arts

Moving away from the traditional definition of the arts gives insight into current participation in the arts and America's changing tastes. The Urban Land Institute released a series of reports in 2002 entitled Building Arts Participation: New Findings in the Field based on the 1998 Community Partnerships for Cultural Participation (CPCP) Survey. In their comparative study, the traditional definition of the arts was expanded to include 'popular' styles such as reggae music, puppet theater and ethnic dance, as well as the visual arts.

Using the broader, expanded definition of the arts, the CPCP study found that 61% of people who attended arts and cultural events attended a wide array of programs, while only 39% attended programs that fell into the traditional, narrow definition of the arts. This broader definition has a large impact on participation. Whether through personal engagement, involvement with their children, volunteering or financial contribution, 80% of respondents that attended the broader array of live performances participated in some other way in cultural activities. Contrary to the popular belief that larger venues are more popular, respondents identified community facilities as the top place they attended arts and cultural programs. Open-air venues and locations at college and university campuses captured 69% and 56% of respondents, respectively.

The Urban Institute study demonstrates that the taste for the arts is changing across the country and that the traditional definition of the arts does not sufficiently indicate demand for performing arts venues. The array of cultural programs has expanded to cover all walks of life from all backgrounds. Whereas traditional art forms depend on a wealthy, well-educated constituency, a broader definition that includes ethnic and popular cultural themes encompasses a much larger demographic.

Financial Feasibility of the Performing Arts

RAND's report "The Performing Arts in a New Era", suggests that traditional performing arts will never be able to support themselves entirely on revenue and that the system of governmental support for the arts has begun to collapse in recent years. While the validity of these statements may be questionable, it seems certain that live performing arts venues are typically not profit-making enterprises.

Non-Profit Versus For-Profit Performing Arts Groups

It is important to note that not all live performing arts organizations are non-profit and that there is some difference in the revenue streams between for-profit and non-profit groups. Most notably, for-profit organizations are commercial institutions that must rely solely on revenue and earnings for operation. This earned income comes from the same sources as non-profit groups: ticket sales, rental fees, investments, and concessions.

The big difference in the non-profit organizations is the receipt of unearned income – income from grants and other contributions. The largest form of contribution comes from indirect government subsidies, including foregone taxes and property gifts. Federal, state and local governments also make direct contributions to non-profit organizations through grants and foundations like the National Endowment for the Arts. The tax status of non-profit organizations also enables them to receive tax-deductible donations from private parties. Finally, individuals contribute unearned income by volunteering.

The Income Gap: Earned Versus Unearned Income

While unearned income may seem like a great benefit to non-profit arts establishments, it creates an income gap within organizations. Since all companies, profit or non-profit, must operate within their budget constraints, the difference between earned income and unearned income creates not only an instability but a dependence on outside sources of funding. Often the success of a non-profit organization depends on their ability to mitigate dependence on unearned income streams through grant writing and fundraising, tight budgeting, and cost control.

The disparity between income sources is not constant across arts, however. Census data shows that, on average, opera companies had an earnings gap of \$1.6 million. This is substantially different than other music groups, which had an average gap of only \$78,000. As a percentage, the importance of earned income is fairly constant, ranging from about 50 to 65% of organizational budget totals. Money to fill this budgetary gap comes from the government, foundations, individuals and private business. Interestingly, direct government support on average amounts to only 5%.

Performance Anxiety

While earned income is an important part of the performing arts, its percentage of total income has remained stable despite increases in ticket prices. For instance, even though ticket prices have gone up as much as 70% for symphonies over ten years, earned revenue has not gone up as a percentage of total revenue. This is mostly due to the increase in large donations by private individuals. However, the stable earned income numbers mean that non-profit organizations are still just as dependent as ever on unearned income.

The for-profit sector has not fared much better. Two-thirds of commercial movies lose money, 70% of theater productions end up in the red, and nine out of ten commercial record deals fail to break even. So, while the financial situation of the non-profit sector has gone unchanged for the most part, the for-profit sector has experienced consolidation, contraction, increasing competition and technological

advances that pose an even greater question of future viability.

Theater Trends

Every year, the Theatre Communications Group (TCG) publishes an annual survey that reports on the performance, practice and state of non-profit theaters in the United States. This survey includes a five-year projection for 92 theaters across the country as well as an in-depth survey of the overall state of 198 theaters. Covering earned income, contributions, change in unrestricted net assets (CUNA), attendance, performances and pricing, the TCG survey gives an accurate, up-to-date picture of financial performance of the non-profit theater industry.

Income and Expenses

The latest edition of this survey, *Theatre Facts 2004*, shows that increases in earned income for the non-profit theater sector did not keep pace with rising expenses from 2000 to 2004. As a whole, earned income outpaced inflation by 3.1%, while expenses grew at a rate of 8.9% above inflation.

Contributed income was a huge factor during this same five-year period, growing at an annual rate of 20.1% after being adjusted for inflation. The growth in gifts from individuals was the largest and totaled 84%. State and federal funding grew at 1% and 45% respectively, while average local funding fell 39%. Overall, total growth in income outpaced expenses by 1.4% from 2000 to 2004.

Attendance/Performances/Pricing

Attendance for the theater sector was not promising, with a 4% decline from 2000 to 2005. The main area of growth was children's shows. While the aggregate number of performances increased 1.6%, the average single ticket price grew 14% after inflation.

The Big Picture

Despite rising ticket prices, falling attendance, skyrocketing expenses and lackluster earned income growth, non-profit theater in the United States holds some promise. CUNA

reached a five-year high in 2004 and, thanks to contributed income, the average theater finished in the black. Large theaters have been successful in filling capacities, while mid-sized theaters have struggled. Small theaters remain absolutely dependent on contributions and have problems attracting audiences. Overall, government agencies, corporations, foundations and individuals contributed \$1.46 billion to the non-profit theater industry to keep it vibrant and viable.

Arts and Community

In light of the performance of the non-profit and for-profit arts sectors, it would seem irrational to support the industry if it did not provide additional benefits. To justify such hefty outlays of capital to non-profit arts organizations, Americans for the Arts, along with 91 communities across America, conducted a study called “Arts & Economic Prosperity” to identify the impact that these organizations have on the community and the country. The Urban Institute’s 1998 CPCP report also highlights the economic and social relationship between arts participation and community building.

Economic Impact on Communities

The Urban Institute’s study quantified the economic impact of arts on their communities by examining employment, household income, and government tax revenue. In fiscal year 2000, the non-profit arts sector spent an estimated \$53.2 billion dollars in the U.S. economy. This spending resulted in 2.1 million jobs, \$47.4 billion in household income, and \$11 billion in federal, state and local taxes.

These numbers, however, do not include expenditures by audiences in the region surrounding these arts venues. Considering that the average non-profit arts attendee spends about \$22.87 above the cost of admission (non-local attendees spend an average of \$38.05) on lodging, meals, retail, concessions and other items in the community, the impact of the non-profit performing arts extends beyond what they themselves spend in the economy.

Putting these two pieces of the puzzle together, the non-profit arts sector contributes a total of over \$134 billion to the United States economy – an additional \$80.8 billion over what the organizations themselves spend. This added spending also produces another 2.76 million jobs and accounts for \$42 billion in household income.

To put this into perspective, direct and indirect arts employment represents well over 1% of the total U.S. workforce. In 2000 alone, direct expenditures by non-profit arts organizations accounted for 0.78% of the total workforce, or 1.14 million jobs. As a whole, all of this spending also generated another \$13.4 billion in tax revenues for a total of \$24.4 billion. Taking into consideration that federal, state and local government together contribute \$3 billion to support the arts yearly, this equates to a financial return of more than 8:1. Despite its lack of financial self-sufficiency, it appears that the economic benefits of the non-profit arts sector justify their significant support.

Beyond Economics

In addition to the economic benefits, cultural, educational and entertainment benefits come along with all types of arts. Non-profit arts enrich communities culturally as well as economically. In the Urban Institute Building Arts Participation report, almost 60% of respondents identified “Socializing with Family and Friends” as their primary motivation to attend arts and cultural programs. Frequent participants in arts and culture are more likely to engage in civic activities than less frequent participants. People who attend performances or events also tend to participate in the arts in other ways, such as engaging in amateur art-making, involving their children in the arts, and supporting the arts through volunteering or financial contributions. In fact, about 80% of respondents that attended live events and programs participated in arts and culture in other ways. Social benefits from arts participation include personal development, social cohesion, community empowerment, local image, identity definition, and health and well-being.⁵⁶

⁵⁶ As suggested by François Matarasso’s report entitled: “Use or Ornament: The Social Impact of Participation in the Arts”, 1997.

Concert Trends

Ticketing

According to Billboard Box Scores, ticket sales grew by only 0.2% in 2004 and the concert market continues to compete with other venues and forms of entertainment, including at-home entertainment. Many events and entertainment venues have recently taken a closer look at purchasing behavior, pricing systems, and seating in an attempt to improve revenues. For example, Amusement Business learned that, after buying one high-priced (\$200-\$300) ticket, consumers are much less likely to purchase tickets to future shows and may even skip less expensive shows in order to save up for the big show. This information has fed the concert market's growing confidence in smaller, local/regional promoters who "know" their audiences and tour at smaller capacity performing arts facilities.

Furthermore, according to Amusement Business Spotlight 2001, ticket prices have been gradually climbing as a result of promoters paying more as artist guarantees increase. A proliferation of venue space and a consolidation of the companies controlling acts have also driven ticket prices upward, as more venues are working with fewer promoters to secure profitable acts.

Marketing

Performing arts organizations are using a multitude of strategies to alleviate financial pressures in an increasingly competitive leisure market. On the cost side, this has meant hiring fewer expensive guest artists and avoiding newer works. On the income side, it has meant hiring celebrity artists to attract larger audiences and producing traditional "warhorse" programs such as the Nutcracker Ballet. As mentioned above, this has created programmatic variations among the various-sized organizations. Small commercial, non-profit, and volunteer organizations are using niche programming; mid-size organizations are using traditional programming; and large non-profits are using blockbuster programming.

Arts organizations have also restructured their marketing strategies to try to revive ticket sales. According to the 2005 Performing Arts Faculty Administrators Seminar sessions, most venues are returning to subscription-based pricing strategies, offering one "mega ticket" that is good at multiple venues and events; buy-one, get-one-free deals; or create-your-own subscription series. Common add-ons include free parking and snack vouchers.

Many venues are also using themes to enhance or re-brand their image. For example, Clear Channel Entertainment, the largest outdoor event promoter, adopted a "Music Sounds Better on Grass" campaign to promote a more casual, social image for lawn seating, while House of Blues Concerts, owner/operator of at least 20 arenas and outdoor performing arts facilities, is keeping ticket prices below \$20 and encouraging customers to bring their own food, blankets, and chairs. Ravinia Festival will sell two-for-one companion tickets for selected Chicago Symphony Orchestra concerts this summer. Other venues have designated "Theater Thursdays" and singles' nights to appeal to younger audiences.

The concert and performing industry is also taking advantage of the fact that, as noted in Amusement Business Spotlight 2000, fan development is a cycle that begins with parents taking their children to shows and continues as those children grow up and pay their own way to concerts and sporting events, and then eventually bring their own children to shows. This cycle of fan loyalty has prompted some venues to introduce strategies to acquire marketing data from fans in exchange for concessions and prize coupons.

Capacity

At the same time that promoters are working on creative marketing packages, the growing number of small- and mid-sized venues reflects the increasing number of performers who can easily sell 2,000 to 5,000 seats. According to Amusement Business Spotlight 1999, the 5,000-seat and under venue is increasingly popular for baby boomers. As

this trend continues to increase, some artists with the ability to sell out a large venue such as Neil Young and Tina Turner have instead chosen to play two shows in a smaller venue. Audiences have responded well to this, and may even prefer to spend money on a more intimate concert experience.

Despite the challenges of predicting and managing ticket pricing and venue preferences, artists continue to tour to increase exposure to fans and media, build revenue, gain performance experience, do market research, and sell merchandise. While it is not yet possible to download a live show, a variety of venues are taking advantage of improving technology to create podcasts and offer music samples on their websites.

Case Studies

There are a variety of venues to consider programmatically at UMore Park – the program could include an amphitheater or similar venue, a multi-purpose theater, rehearsal and event space for community programs, educational and/or conference facilities, gallery space, artist live/work space, or a combination of these. Please see the following case studies for examples of how some of these have been incorporated in other places.

Regional Performance Centers

Among other uses, the University of Minnesota could consider the creation of a regional performing arts center on the Rosemount site. This development would give arts groups of all types a venue in which to perform, and would include open-air and indoor facilities. The following section outlines precedents for this type of development, including The Banff Centre in Alberta, Canada; the Chautauqua Institution in the Southern Tier of New York; Tanglewood in the Berkshire Mountains of Massachusetts; the Ravinia Festival in Highland Park, Illinois; and the DTE Energy Music Theater in Clarkston, Michigan to guide future discussion of this issue. Please note that these examples are all longstanding institutions. However, they all started from smaller programs and expanded to what they are today over time.

Banff Centre (Banff National Park, Alberta, Canada)

Founded in 1933 by the University of Alberta, Department of Extension, with a grant from the U.S. based Carnegie Foundation, The Banff Centre began with a single course in drama. Its success generated additional arts programs and the Centre became known as the Banff School of Fine Arts in 1935. While arts programming continued to grow and flourish, conferences were introduced in 1953 and management programs in 1954.

Today its four areas of programming include:

- Arts
- Leadership Development
- Mountain Culture
- Conference Services

In 1970, to acknowledge the broader educational role of the School as well as its move toward a centre of experiment and innovation, it was renamed The Banff Centre for Continuing Education (The Banff Centre for short). In 1978, Alberta government legislation granted The Banff Centre full autonomy as a non-degree granting educational institution under the governance of an appointed Board. “The Banff Centre operates under the authority of the Post Secondary Learning Act, revised statutes of Alberta 2003, with the object of providing to the public the opportunity of access to a broad range of learning experiences.” (Legislative mandate) All development on the site is subject to approval by the Town of Banff and is governed by previous studies undertaken as a course of compliance with the Alberta Municipal Government Act.

In the mid-1990s, The Banff Centre, along with most public institutions in Alberta, sustained cuts to its operating grant. The Centre responded in an entrepreneurial way and launched a successful capital campaign (The Creative Edge) to raise funds for state-of-the-art revenue generating conference facilities, as well as a new Music & Sound complex. The new facilities opened in 1996—conference revenues reportedly increased by 30% as a result of these capital improvements. In the same year, the Centre’s fourth



BANFF CENTRE

division, Mountain Culture programming, was created. A few years later, in 1999, The Banff Centre was recognized as a National Training Institute by the federal government and was awarded \$3 million over three years for artistic training programs.

The Banff Centre is located on a 17.6 ha (43+ acre) site overlooking the Town of Banff and the Bow Valley. Today, the Centre continues its role as a catalyst for creativity. A globally respected arts, cultural, and educational institution and conference facility, The Banff Centre is a leader in the development and promotion of creative work in the arts, sciences, business, and the environment.⁵⁷ It is also a leader in sustainable design. The Banff Centre is currently redeveloping the campus in a \$100 million master plan over a 10-year period (approved in January 2005) to add “greener” stormwater management systems and landscaping. All new buildings on the campus – including additions to Donald Cameron Hall and the Sally Borden Building – will be LEED certified.

Facilities:

Eric Harvie Theatre is the main auditorium for the Banff complex, and accommodates opera, dance, drama and wide-ranging music performances, as well as film screenings and conferences. It has 959 seats.

⁵⁷ Text taken from Banff Centre website: <http://www.banffcentre.ca/about/history/>

<i>Room</i>	<i>DIMENSIONS</i>		<i>AREA</i>		<i>CEILING HEIGHT</i>		<i>CAPACITIES</i>		
	<i>feet</i>	<i>meters</i>	<i>sq. ft.</i>	<i>m³</i>	<i>feet</i>	<i>meters</i>	<i>theater</i>	<i>banquet</i>	<i>reception</i>
Eric Harvie Theater									
Stage Dimensions	60 x 40	18.3 x 12.2	2400	223	60'	18.0	959	—	—
West Foyer	88 x 28	26.8 x 8.5	2464	229	10'7"	3.2	60	50	115
East Foyer	58 x 28	17.7 x 8.5	1624	151	10'7"	3.2	50	—	90
Lobby	93 x 24	28.3 x 7.1	2195	204	10'9"	3.3	150	—	100
Eric Harvie Theater									
Stage Dimensions	60 x 40	18.3 x 12.2	2400	223	7'9"	18.0	246	—	—
West Foyer	83 x 10	25.3 x 3.0	830	77	7'9"	2.7	—	—	65
The Club	40 x 51	12 x 15.5	2040	187	7'9"	2.4	—	—	125

BANFF CENTRE FACILITIES

Margaret Greenham Theatre is the second theatre space in the complex. It is a studio space used exclusively for dance, drama, intimate music events and meetings. It has 246 seats.

Max Bell Auditorium features a modern, 330-seat auditorium engineered for acoustic excellence and equipped with a 4.5-meter (15-foot) screen, dimmer lighting, a sound system and projection booth. This building houses 17 meeting rooms of varying capacities, as well as a large central foyer that is ideal for conference registration, receptions or displays. The entire building is 14,220 sq.ft.

Other Facilities

- The CLUB, a nightclub style venue with 180 seats
- Rolston Recital Hall (200 seats)
- Donald Cameron Hall, which includes a dining hall, classrooms and administration offices
- Sally Borden Building, which contains athletic and recreational facilities (swimming pool, gymnasium, fitness center) and a café
- Glyde Hall, which hosts Walter Phillips Gallery and studios for Visual Arts programs
- Loughed Building, which hosts Media and Creative Electronic Environment programs

- 28 Music Huts, or small practice studios for musicians
- Leighton Colony artist studios

Amenities

- 800 beds for students, staff and faculty
- 500 parking spots
- Bus service from Calgary (2 hours away)
- Shuttle bus service to Banff hotel properties

The Banff Centre is 75% self-reliant, generating revenue from conference sales, donations, sponsorship, program grants, and tuition. The Banff Centre is supported by funding from governmental agencies including Alberta Advanced Education, Alberta Infrastructure and Transportation, Alberta Innovation and Science, and the Alberta Foundation for the Arts. Arts training programs are supported by funding from the Government of Canada through the Canadian Department of Heritage and the Department of Human Resources Development through the National Arts Training Contribution Program.⁵⁸

⁵⁸ Text taken from Banff Centre website: <http://www.banffcentre.ca/about/history/>

Chautauqua Institution (Chautauqua, New York)

The Chautauqua Institution is a not-for-profit, 750-acre educational center beside Chautauqua Lake in southwestern New York State, where approximately 7,500 persons are in residence on any day during the nine-week summer season. The Institution welcomes over 170,000 people at its scheduled events. Over 8,000 students enroll annually in the Chautauqua Summer Schools which offer courses in art, music, dance, theater, writing skills and a wide variety of special interests.

Today its four areas of programming include:

- Arts
- Education
- Religion
- Recreation

The Institution, originally the Chautauqua Lake Sunday School Assembly, was founded in 1874 as an educational experiment in out-of-school, vacation learning. It was successful and broadened almost immediately beyond courses for Sunday school teachers to include academic subjects, music, art and physical education. The Chautauqua Institution is governed by a 24-member board of trustees, four of whom are elected by property owners. The board establishes the policies and direction of the Institution, electing the officers who are responsible for the operation of the Institution.⁵⁹ As per the Institution's 2005 annual report, the Institution accounts for about 80% of its revenues from earned revenue.

Facilities:

- The Amphitheater was built in 1893 and is a multi-use facility that presents over 180 programs each season, including lectures, symphonic and popular music concerts, dance performances, and religious services. The Chautauqua Symphony Orchestra performs three concerts a week in the Amphitheater in summer months. It has pew-style seating for 4,500, bleacher seating for 500, and choir-loft seating for 300.
- Bellinger Hall includes a dormitory with 250 beds, a conference center and cafeteria, and 5 meeting rooms
- Hall of Christ is a worship hall with 225 seats, which also hosts chamber music concerts, recitals and film screenings
- Hall of Philosophy is a lecture hall with 600 seats
- The Elizabeth S. Lenna Hall opened in 1993 and hosts recitals, chamber music concerts and other performances. The hall is approximately 8,000 square feet and its interior height measures 50 ft. from floor to peak. It has 500 seats.
- McKnight Hall hosts recitals and rehearsals and has 100 seats.
- 140-seat Normal Hall is for performances by the Chautauqua Conservatory Theater.
- Norton Memorial Hall has 1,365 seats and hosts concerts by the Chautauqua Opera.
- Smith-Wilkes Hall is a 425-seat venue for chamber music, recitals, lectures and film screenings.

⁵⁹ Text modified from Chautauqua Institution website, <http://www.ciweb.org/history.html>



CHAUTAUQUA INSTITUTION

Other Amenities

- Smith Memorial Library
- School of Art
- School of Dance
- School of Music
- Theater Conservatory
- Special Studies
- Children's School (early childhood education center)
- Boys' and Girls' Club (summer day camp)
- Youth Activities Center
- College Club
- Chautauqua Literary and Scientific Circle Book Club
- Sailing center
- Chautauqua Golf Course (36 holes)
- Tennis center (12 courts)
- Two fitness centers
- Four public beaches



TANGLEWOOD

Tanglewood (Lenox, Massachusetts)

Site Acreage: Total-750 acres. Main property-225 acres

In August 1934, a group of summer residents of the Berkshires organized a series of three outdoor concerts by members of the New York Philharmonic. The venture was so successful that the promoters incorporated the Berkshire Symphonic Festival and repeated the experiment during the next summer. The Festival Committee then invited Serge Koussevitzky and the Boston Symphony Orchestra to take part in the 1936 concerts. Following the BSO's success, the Tappan family offered their 210-acre estate, Tanglewood, as a gift to Koussevitzky and the orchestra. The offer was accepted, and the first Tanglewood concert took place on August 5, 1937. The first permanent structure on the site – the Music Shed, designed by Eliel Saarinen – was inaugurated in August 1938, and the Boston Symphony Orchestra has played there nearly every summer since.

In 1986, the Boston Symphony Orchestra acquired the Highwood estate adjacent to Tanglewood and expanded the public grounds by 40%. To unite the properties and update the concert facilities, they opened Seiji Ozawa Hall in 1994. This venue accommodates student concerts, recitals and chamber music concerts offered by the Boston Symphony Orchestra throughout the summer.

Today Tanglewood annually draws over 350,000 visitors. In addition to the Boston Symphony Orchestra, there are weekly chamber music concerts, Prelude concerts and Open Rehearsals, the annual Festival of Contemporary Music, and almost daily concerts by the gifted young musicians of the Tanglewood Music Center. The Boston Pops Orchestra appears annually, and in recent years the Tanglewood Jazz Festival has been added to close the summer. The season offers not only a vast quantity of music, but also a vast range of musical forms and styles, all presented with a regard for artistic excellence that makes the festival unique.⁶⁰

The Tanglewood Music Center (TMC) provides a unique, in-depth musical experience for emerging professional musicians of exceptional ability. Participants in the program, who all attend as Fellows of the Music Center (with costs of tuition, room and board covered by their Fellowships), work with internationally renowned artists, including members of the Boston Symphony, resident faculty, and guests. The Fellowship Program is designed for experienced musicians who have completed much or all of their formal instruction, and who will benefit from and contribute most to the very intense and demanding projects undertaken at the Center. The sole criterion for admission is musical excellence. While there is no strict upper age limit, preference is normally shown to those between the ages of 18 and 30. The TMC presents over 40 additional concerts throughout the season, presenting orchestra, opera, chamber music and vocal programs, and including a new music festival in its multiple onsite venues. Today, 20% of the members of American symphony orchestras and 30% of first-chair players are alumni of the Tanglewood Music Center. Also offered at Tanglewood for younger artists ages 15-18 are the programs of the Boston University Tanglewood Institute (BUTI), two-to eight-week programs June 18-August 12.⁶¹

⁶⁰ Text from Tanglewood website, <http://www.tanglewood.org/itemB/detail.jhtml?id=600029&area=tbl>

⁶¹ text from <http://www.bso.org/genC/genCone.jhtml?id=cat50084&area=edu>

Facilities (fixed seats):

Koussevitzky Music Shed	5,100 seats
Seiji Ozawa Hall	1,200 seats
Chamber Music Hall	300 seats
Theatre-Concert Hall	N/A

Other Facilities and Amenities

- Tanglewood Music Center (BSO's Academy for Advanced Musical Study for 150 emerging professional artists)
- Highwood Manor House
- Hawthorne Cottage
- Visitor Center
- Two cafés and Two gift shops
- Formal gardens
- Onsite caterer
- Tents for special events
- Round-trip bus service from Boston on Friday and Saturday nights

The Boston Symphony Orchestra is reportedly the world's largest orchestral operation, and the fourth-largest performing arts institution in the country. The Boston Symphony Orchestra presents 21 concerts and the Boston Pops Orchestra presents another 60 events at Tanglewood during the summer season. It is estimated that the BSO generates \$70 million for Berkshire County during the ten weeks it is in residence at Tanglewood. Approximately two-thirds of the BSO's total revenues, including those from Tanglewood, are from earned revenue.

According to the BSO's 2003 tax statement, about 70% of Tanglewood's visitors are from outside Massachusetts. In recent years Tanglewood ticket sales have declined due to a softening in the tourism industry as well as poor weather conditions. Nonetheless, Tanglewood remains an important part of the regional arts economy and anchors the growing number of cultural institutions in western Massachusetts, including the Massachusetts Museum of Contemporary Art, Hancock Shaker Village, the Clark Art Institute and the Berkshire Museum.



RAVINIA FESTIVAL

Ravinia Festival (Highland Park, Illinois)

Located in Highland Park, the non-profit Ravinia Festival Association offers an inexpensive way to hear top performers in the summer season. Since 1936, Ravinia has hosted the Chicago Symphony Orchestra in summer residence and offers a variety of other performances. It also operates The Steans Institute for Young Artists (SIYA). Five programs comprise the Institute's summer season: the program for jazz; the classical programs for piano and strings, and for vocal chamber music; and for singers; and the Sandra K. Crown Program for American Classic Music Theater. In each of the programs, young artists study with an internationally renowned faculty of artist-teachers, participate in concerts given as part of Ravinia's summer programming and attend Ravinia concerts.⁶² Outside the summer season, the organization presents its Rising Stars concert series October through May in Bennett-Gordon Hall, featuring the best young artists in classical music. Ravinia has identified community outreach and education initiatives as its key missions. The Festival runs programs in 24 inner-city schools throughout Chicago and will soon move into other under-served areas. In 2003, Kauffman launched One Score, One Chicago, based on One Book, One Chicago as a means of generating community-wide interest in classical music.

Facilities

- The Pavilion has 3,200 covered fixed seats and an extensive lawn area that can accommodate an estimated 10,000 to 15,000 attendees who can hear

the performance through a high-quality speaker system throughout the park's lawn area.

- Martin Theatre, an indoor venue, seats 850 and is used for chamber music performances and recitals
- Bennett-Gordon Hall, another indoor venue, seats 450 and is used for Steans Institute concerts and a few select dance recitals and workshops.

The Ravinia Festival season typically runs from June to September (about 105 days) with 120 total event performances (on all three stages). Between 40% and 50% of events at Ravinia take place at the main pavilion. According to ERA interviews and the Festival's annual report, attendance in 2005 was a record 600,000+ people, with 6 sell-out shows. Gross ticket revenues in 2005 were close to \$11.3 million, an increase of nearly \$1 million from \$10.3 million the previous year. An additional \$9.4 million was raised from the Illinois Arts Council and private contributors. As the summer home for the Chicago Symphony Orchestra, Ravinia Festival also hosts a variety of entertainers that range in style and audience following. The 2005 season included performances by Aretha Franklin, Hootie and the Blowfish, and Garrison Keillor. Tickets range from \$5 to \$15 for lawn seats, and up to \$80 for top performers such as Tony Bennett. For the 2006 season, Ravinia will use a new promotion to further boost attendance at CSO events – a new multi-visit discount card has reportedly generated an increase in sales. Earned revenue accounts for about 60% of Ravinia's total revenue.

DTE Energy Music Theater (Clarkston, Michigan)

Located in Clarkston, Michigan, in the wealthiest area of metro Detroit, this amphitheater has a reputation among customers for being scenic and well planned. The logistics of ingress, egress, and its 6,000 parking spaces have eliminated many of the hassles and anxiety that fans complain about at other venues like the World Theater and Deer Creek. The rural location and the slightly smaller capacity contribute to the venue's success on this score.

⁶² Text from Ravinia website: <http://www.ravinia.org/Steans/Steans.aspx>

The DTE Energy Music Theater's total seating capacity is 15,275. There are roughly 7,000 fixed seats. The rest of the seating capacity is on the lawn.

Previously known as Pine Knob, this venue sold its naming rights to DTE Energy Company. It is owned and managed by Palace Sports and Entertainment (PS&E). Open May to September, on average DTE Energy Music Theater has approximately 60 to 80 events each summer. This year's program includes performances by the Dave Matthews Band, Ringo Starr, Gin Blossoms, John Michael Montgomery, The New Cars, Blondie, and Randy Travis. The performance season lasts roughly 120 days and is heavily booked. In 2004, 834,000 guests attended DTE Energy Music Theatre's 68 shows. In 2005, over 705,000 guests attended 57 shows (with gross ticket sales of over \$13 million). DTE Energy Music Theatre remained the most attended amphitheatre in the world for the 15th consecutive year and was listed as the fourth highest drawing concert venue in the world of any type in 2005, according to the year-end lists of *Pollstar Magazine*, a leading entertainment trade publication.

Conclusion

Given the Twin Cities' vibrant arts community and the significant impact it has on the local and regional economy, as well as the relatively high participation in the arts of the metro area population, it is worthwhile for the University to explore development of a cultural development on the UMore Park site. It is important to note that most arts and cultural facilities do not sustain their operations solely on earned revenue. However, arts and culture have potential links to increased community involvement and quality of life, and thus may enhance investment in a residential community at UMore Park as well as the adjacent communities.

There may be seasonal opportunities for an outdoor venue at Rosemount given its close proximity to the Twin Cities metropolitan area. If the University considers a large-scale performing arts center on the site, it may want to explore

other ways to capitalize on and cultivate the region's artistic "clusters" in areas like writing and dance, perhaps by incorporating artist education or live/work space into its site plan.

Finally, it is recommended that the University conduct a more in-depth analysis of regional demand for new cultural facilities, and financial feasibility for each option, before moving forward with a development scheme. Based on ERA's experience with these projects, it is important to assess the following to determine the viability of an arts development at UMore Park :

1. The local and regional demand for new arts venues (considering the region's population and economic base, target demographics, market trends and the performance of other venues in the Twin Cities metropolitan market).
2. Programmatic options for the new venue (considering regional arts specialization, compatible uses, site characteristics and operational plans).
3. The economic viability and impact of the proposed performance centers given demand and identified programming (considering the financial impact of venue-related tourism, funding options and possible partnerships, and case studies).

By taking these steps, the University will ensure that it makes an informed decision about whether investing in an arts and culture center at Rosemount will have long-term benefits to the University, the city of Rosemount, and the Twin Cities region as whole.

Addendum

TABLE 1. SELECTED PERFORMING ARTS VENUES IN THE TWIN CITIES

<i>Name</i>	<i>Disciplines</i>	<i>Capacity</i>
The Acadia Café	Music, Literature	50
Bryant Lake Bowl Theater	Music, Dance, Opera, Theater, Media Arts, Literature	85
Pillsbury House Theatre	Theater	96
Cedar Riverside People's Center	Theater	100
The Playwrights' Center	Music, Theater, Literature	100
Intermedia Arts	Music, Dance, Theater, Media Arts, Literature	115
JDC Studio Theatre/Jawaahir Dance Co.	Music, Dance, Theater, Literature	120
Minneapolis Theatre Garage	Music, Dance, Opera, Theater, Media Arts, Literature	146
The Jungle Theater	Music, Media Arts, Literature	148
Ballet Arts Minnesota	Music, Dance, Opera, Theater	220
Hennepin Center for the Arts	Music, Opera, Theater	230
Walker Community Church	Music, Dance, Theater	250
Hamline University	Music, Dance, Opera, Theater	300
Minnesota History Center	Music, Dance, Opera, Theater, Media Arts	314
Hamline University	Music, Media Arts, Literature	315
Ordway Center for the Performing Arts	Music, Dance, Opera, Theater, Media Arts, Literature	315
Fine Arts Center	Music, Dance, Opera, Theater	340
Fine Line Music Café	Music, Dance, Opera, Theater	400
Fine Arts Center	Music, Media Arts, Literature	480
History Theatre	Music, Opera, Theater, Media Arts	590
Hollywood/Birdland Theatre Corp.	Music, Dance, Opera, Theater, Media Arts, Literature	650
Benson Great Hall	Music	1,500
O'Shaughnessy Auditorium	Music, Dance, Opera, Theater, Media Arts, Literature	1,742
Ordway Center for the Performing Arts	Music, Dance, Opera, Theater, Media Arts, Literature	1,912
Minnesota Orchestral Association	Music	2,450
Northrop Memorial Auditorium	Music, Dance	4,769

Source: Minnesota State Arts Board

TABLE 2. LARGE-SCALE ARTS AND CULTURE VENUES IN THE TWIN CITIES

<i>Venue</i>	<i>Type</i>	<i>Capacity</i>	<i>Location</i>
Minnesota State Fair	Amphitheatre	12,500	Saint Paul, MN
Target Center	Arena	19,500	Minneapolis, MN
Xcel Energy Center	Arena	18,500	Saint Paul, MN
The Legendary Roy Wilkins Auditorium	Auditorium	5,500	Saint Paul, MN
Orchestra Hall	Auditorium	2,450	Minneapolis, MN
O'Shaughnessy Auditorium	Auditorium	1,814	Saint Paul, MN
First Avenue	Club	--	Minneapolis, MN
Myth	Club	4,000	Saint Paul, MN
The Quest	Club	1,650	Minneapolis, MN
Ground Zero	Club	1,300	Minneapolis, MN
Cabooze On The West Bank	Club	904	Minneapolis, MN
Fine Line Music Cafe	Club	759	Minneapolis, MN
O'Gara's Garage	Club	650	Saint Paul, MN
Theatre De La Jeune Lune	Club	500	Minneapolis, MN
Famous Dave's BBQ & Blues	Club	475	Minneapolis, MN
Cedar Cultural Center	Club	450	Minneapolis, MN
Whiskey Junction	Club	340	Minneapolis, MN
Bunker's Music Bar & Grill	Club	300	Minneapolis, MN
Lee's Liquor Lounge	Club	300	Minneapolis, MN
The 400 Bar	Club	275	Minneapolis, MN
7th Street Entry	Club	250	Minneapolis, MN
Dakota Jazz Club & Restaurant	Club	250	Minneapolis, MN
Hard Rock Cafe Minneapolis	Club	250	Minneapolis, MN
Big V's	Club	175	Saint Paul, MN
Hubert H. Humphrey Metrodome	Stadium	50,000	Minneapolis, MN
Midway Stadium	Stadium	14,000	Saint Paul, MN
Hennepin Stages	Theater	--	Minneapolis, MN
Northrop Auditorium	Theater	4,767	Minneapolis, MN
The Orpheum Theatre	Theater	2,600	Minneapolis, MN
The State Theatre	Theater	2,150	Minneapolis, MN
Ordway Center For The Performing Arts	Theater	1,900	Saint Paul, MN
Guthrie Theater	Theater	1,304	Minneapolis, MN
Ted Mann Concert Hall	Theater	1,100	Minneapolis, MN
Fitzgerald Theater	Theater	1,058	Saint Paul, MN
Pantages Theatre	Theater	960	Minneapolis, MN
The Theatre at The Woman's Club	Theater	632	Minneapolis, MN
McKnight Theatre	Theater	306	Saint Paul, MN
Mixed Blood Theatre	Theater	200	Minneapolis, MN

Source: Pollstar

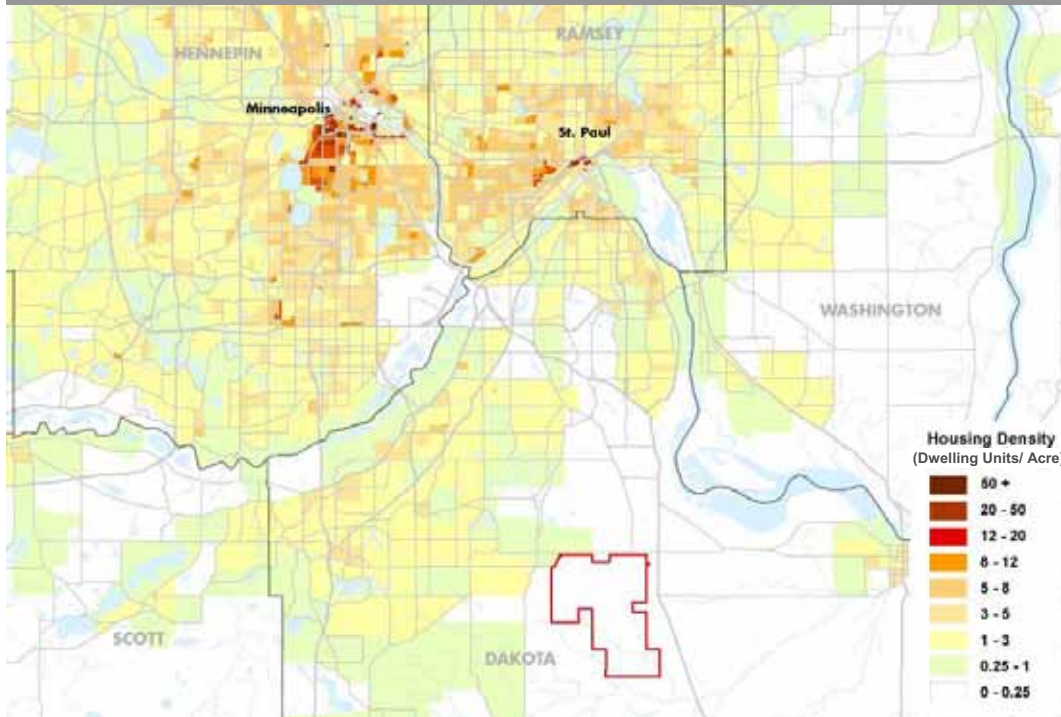
Following are excerpts from presentations made to the UMore Park Steering Committee during the course of the planning process. This presentation explores the density and program mix that might be constructed at UMore Park.

Residential Density | Housing Types

	<p>Single Family- Low Density</p>  <p>3 du/ac</p>
	<p>Single Family – Medium Density</p>  <p>6 du/ac</p>
	<p>Town House</p>  <p>12 du/ac</p>
	<p>Multifamily</p>  <p>30 du/ac</p>

UNIVERSITY OF MINNESOTA S A S A K I

Residential Density | Area Survey



Density | .25-1 du/ac

Eagan, MN



UNIVERSITY OF MINNESOTA

SASAKI

Density | 1-3 du/ac

West St. Paul



UNIVERSITY OF MINNESOTA

SASAKI

Density | 3-5 du/ac

West St. Paul



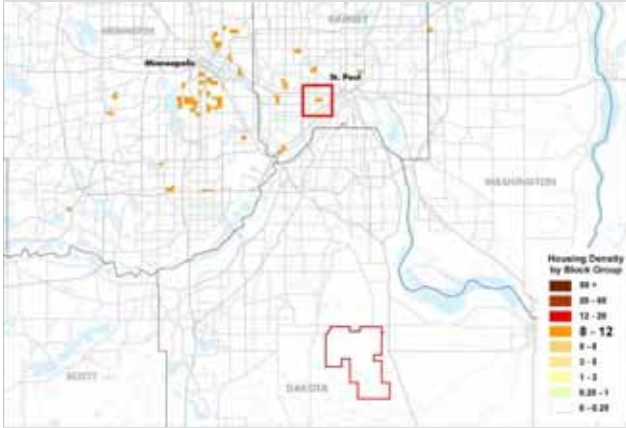
Density | 5-8 du/ac

South St. Paul



Density | 8-12 du/ac

Summit-University, St. Paul



UNIVERSITY OF MINNESOTA

SASAKI

Density | 12-20 du/ac

Summit-University, St. Paul



UNIVERSITY OF MINNESOTA

SASAKI

Density | 20-50 du/ac

Summit-University, St. Paul



Density | 50+ du/ac

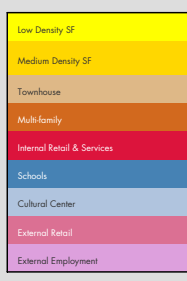
Downtown St. Paul



Development Capacity | Density Comparison



Unit Mix	Share	Units
Low Density Single Family	25%	3,860
Medium Density Single Family	25%	3,860
Townhouse	25%	3,860
Multi-family	25%	3,860
TOTAL		15,440

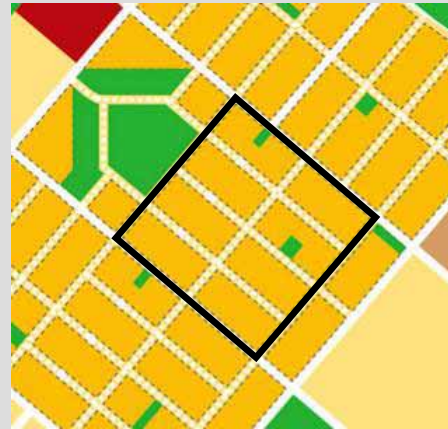


Unit Mix	Share	Units
Low Density Single Family	0%	-
Medium Density Single Family	0%	-
Townhouse	0%	-
Multi-family	100%	45,638

Land Use | Concept Plan



Land Use | Block Scale



Block Detail

UNIVERSITY OF MINNESOTA

SASAKI

Plan Elements | Health and Recreation



UNIVERSITY OF MINNESOTA

SASAKI

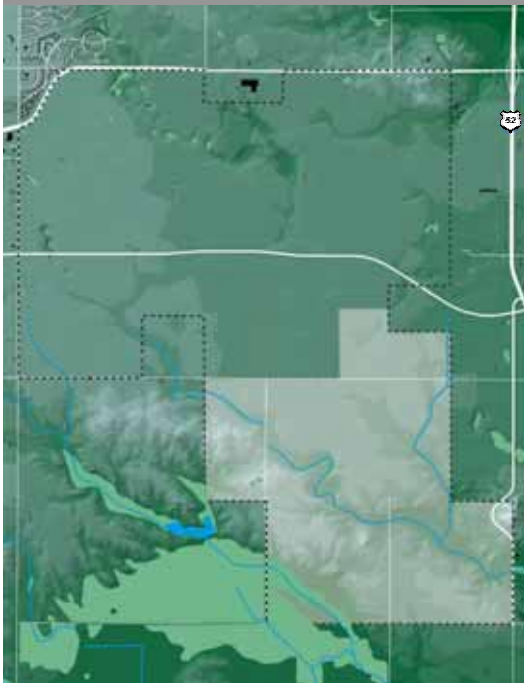
Plan Elements | Greenways



UNIVERSITY OF MINNESOTA

SASAKI

Plan Elements | Nature Preserve



UNIVERSITY OF MINNESOTA

SASAKI

Plan Elements | Education



UNIVERSITY OF MINNESOTA

SASAKI

Plan Elements | Town Center and Retail



UNIVERSITY OF MINNESOTA

SASAKI

Plan Elements | Cultural Facilities



Cultural Center



UNIVERSITY OF MINNESOTA

SASAKI

Plan Elements | Cultural Facilities



Outdoor Venues



UNIVERSITY OF MINNESOTA

SASAKI

Plan Elements | Cultural Facilities



Conference Center



UNIVERSITY OF MINNESOTA

SASAKI

Plan Elements | Cultural Facilities



Interpretive Center



UNIVERSITY OF MINNESOTA

SASAKI

Plan Elements | Cultural Amenities



Community-Supported
Agriculture



UNIVERSITY OF MINNESOTA



S A S A K I

Plan Elements | Employment Centers



Research and
Development

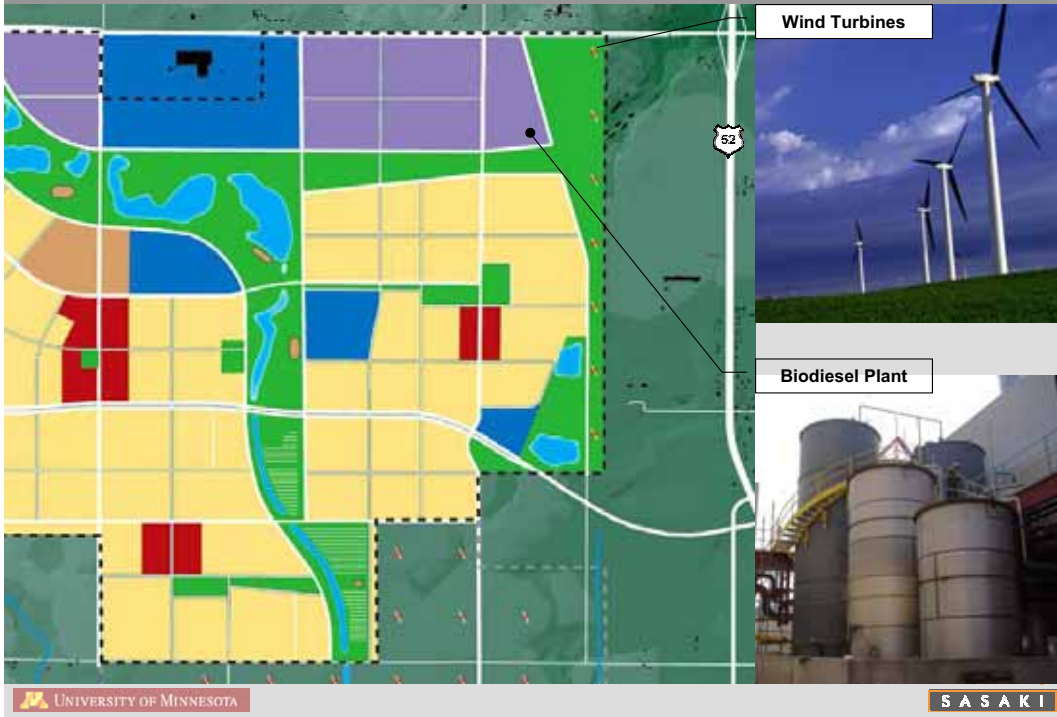


UNIVERSITY OF MINNESOTA

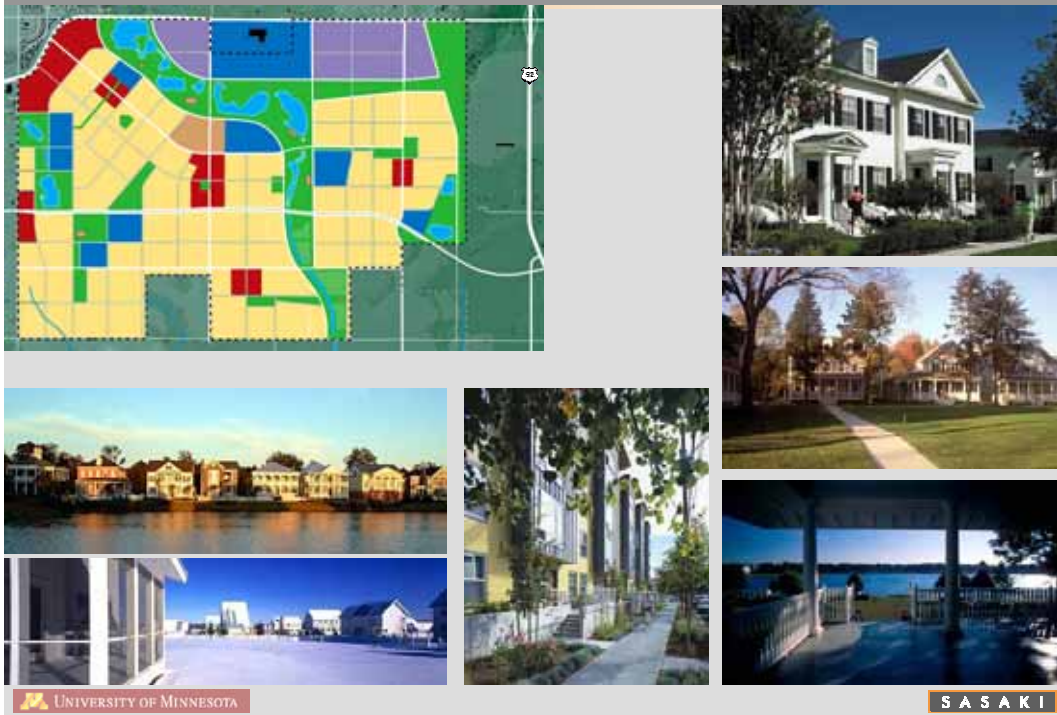


S A S A K I

Plan Elements | Alternative Energy Production



Plan Elements | Neighborhoods



Plan Elements | Neighborhoods



UNIVERSITY OF MINNESOTA

S A S A K I

4.5 UMORE PARK LAND USE CAPACITY

A capacity study for UMore Park tested density alternatives for the site and compared them to existing developments in the Twin Cities region. The UMore Park Steering Committee used these comparisons to develop a framework plan to guide development of UMore Park, and which organizes development around a central cultural and retail node. Under this framework, approximately 1,100 acres would be developed with a large commercial area along County Road 42, a heavy reliance on multi-family housing (thirty dwelling units per acre), and 270 acres of recreational open space.

The plan showcases a system of connections that link the site to the newly preserved Empire Wetlands and the Metro Conservation Corridor. The greenway framework will determine the layout of its roads and parkway routes, and the presence of ecological features will help identify ideal sites for schools, retail nodes and cultural facilities. Finally, the plan will locate research and development sites on land not suited for residential development.

Distinct from its examination of market conditions, the Sasaki Team tested the capacity of the site to understand potential impacts of the design plan. By manipulating fixed assumptions derived from national, state, and local information in a development model, they illustrated impacts such as traffic generation, parking demand and infrastructure demand from a range of program mixes. The first step of the model established the assumptions for infrastructure, retail and open space needs. After determining the amount of land needed for these program elements, the model assigned the remaining land to a mix of housing types, schools, community services, and local retail. The modeling process then manipulated the number and types of housing units (based on varying density levels), adjusted land use requirements for dependent factors, and tested site capacity.

The model used four housing typologies: Single-Family Low Density (three dwelling units per acre), Single-Family Medium Density (six dwelling units per acre), Townhouse (twelve dwelling units per acre), and Multi-Family (thirty dwelling units per acre). It presented two development options to test the UMore Park Steering Committee's interest in developing a model that would be new to the Minneapolis-St. Paul area. These options – similar to current development in the region – that yielded 15,000 dwelling units. The same exercise was repeated to gain a preliminary understanding of the impacts of an increasing population, up to 45,000 dwelling units. At this density, thirty dwelling units per acre, the site is considered to be maximized.

After determining the minimum and maximum number of housing units the site could support, the UMore Park Steering Committee turned to the consultant's economic analysis and determined that 20,000 to 30,000 residents is an appropriate target level given the region's projected economic growth. This would equate to 7,000 to 8,000 housing units.



APPENDIX

1. UMORE PARK STEERING COMMITTEE SUBCOMMITTEE REPORTS

As the UMore Park Steering Committee brought focus to its vision of the UMore Park community, three sub-committees were organized to develop the University's interests in education, health and the environment at UMore Park. The following three summary reports were completed in July, 2006, and are provided here to document the development of concepts and the definition of value that the University brings to the vision of a new community. The ideas captured here will be further enhanced and revised by the Steering Committee over time.

STEERING COMMITTEE STUDY OF EDUCATION

UMore Park Strategic Planning: Opportunities through Education

Vision and Context

Thomas Jefferson said, "Educating the common people [is the only] sure foundation ... for the preservation of freedom and happiness." Education in its many forms is the springboard in this new community for better living that launches children and adults into new experiences based on quality schools, community-based experiential learning, easy access to information and innovation in teaching, learning and technology. The University of Minnesota provides the foundation for education and learning activities that are

interwoven into the fabric of the community. These, in turn, will create lifelong opportunities for individuals and their families.

Education translates as economic success for individuals and the economy. For example, twenty years ago the 'education premium,' the average value of a four-year or advanced college degree compared with a high school diploma, was worth forty percent more in terms of lifetime earnings. Today that premium has grown to over seventy percent (Economic Policy Institute, 2004).

Further, the imprimatur of the University of Minnesota ensures distinction for this new community. The educational goal for the community – and for all Minnesota communities – is:

- Every Minnesota child needs to complete some form of post-secondary education.
- The educational pipeline should be strengthened to ensure that youth who plan to pursue post-secondary education are better prepared.
- The educational pipeline should be broadened to ensure that opportunities are available to a broader range of youth.
- The educational pipeline begins with early childhood development, prenatal through three years of age.
- The educational pipeline extends across the

lifetime, supporting adults through multiple career changes and family leadership, retirees through learning-based activities and volunteerism, and elders through intergenerational interactions and extended independence.

Findings

A new community founded on University expertise – particularly in areas of education, health and energy – brings cascading benefits to all. University research, education and public engagement benefit the community and its residents. The opportunity for the University to plan and design a unique community helps to fulfill its strategic positioning goal of becoming among the top three public research institutions in the world. Residents and their families, and others in the surrounding area, benefit from education, learning and enrichment that lead to healthy lives, classroom accomplishments, career opportunities and successes, personal satisfaction, active citizenship, and volunteerism.

University Value

Linkages to the University of Minnesota will bring the following strengths and contributions to this new community:

Education:

- Prenatal through age 3: Programming and research related to early childhood development, brain development, family social sciences, public health, nutrition; facilitation of parental involvement pre-birth through post secondary experience.
- Pre-kindergarten through 12th grade: Programming and research through departments, centers and entities including Consortium for Post-secondary Academic Success; Center for School Change; Children, Youth and Families Consortium
- Post-secondary education: Research-based education; career counseling; technology-based learning opportunities; internships and experiential learning.

- Professional development for teachers. Might include on-site center and lodging facility that would provide research-based professional development that is integrated with business, industry and governmental innovation.
- Lifelong learning. Linkages to University of Minnesota Extension Service programming; College of Continuing Education programming; Vital Aging Network; non-credit classes, public lectures and seminars, performances; volunteer opportunities.

Research:

- Community-linked research could offer public information and education on range of issues and interests in the community and region – transportation, water quality, energy efficiency, ecology, health and wellness, weather and climate, yards and gardens, recreation, and public affairs, for example.

Engagement and Services:

- Library. Serves as a community hub that provides information services, books and publications for learning and enjoyment, access and applications of state-of-the-art technology, programming that emphasizes segments of the community (early childhood development, family interactions, children and youth, seniors) highlighted by special interests and needs. Linkage to University of Minnesota library system and faculty expertise creates a unique resource for the community and region.

Partnerships

Higher education:

- The location of Dakota County Technical College at the northern boundary of UMore Park offers a unique opportunity to leverage University of Minnesota strengths with those of MnSCU to create educational opportunities for regional residents and others.

Public-private sector:

- Intergenerational. Senior residences adjacent; shared facilities for school, community center, senior center, arts and other public community education offerings.

- Health and wellness. Integrate a clinic and wellness center into the community that emphasize and provide educational programs on diet and nutrition, physical activity, family health and other aspects of wellness and disease prevention.
- Workforce preparation. Coordinate with state, industry, other educational institutions and local foundations to address customized training and new models for workforce preparation that enhance economic development.
- Global economy. Prepare students for global approaches and international interactions in daily work and life. Diversity and the range of cultural values and practices need to be regarded as assets to the community.
- Volunteerism. Community connections are a hallmark of student success. Community programming that encourages volunteer contributions to the school by parents and community residents – especially including older adults – benefits the students, families, teachers and the community overall.
- Leadership. Local governments, business leaders and others can support active citizenship programs that offer students of all ages opportunities for civic engagement and contributions to the public good.

Unique Human Resources

The “silver surge” is pushing across the nation as the first wave of 77 million baby boomers turns 60. Today, one in eight Americans is 65 years or older. By 2020, the number increases to one in six. Based on statistics comparing U.S. census data from 1990 to 2000, Minnesota’s population age 60-64 increased 6 percent; 65-69 decreased 3.4 percent; 70-74 increased 13 percent and 75 and older increased 25 percent. In comparison, the Minnesota population under age 60 increased 16 percent.

In Dakota County older adults were 10.3 percent of the population in 2000. Between 1990 and 2000 the older population in Dakota County increased by 48.1 percent. Research shows that people 65 and older remain active and

choose to engage in career activities and avocations. This segment of the population will be an integral part of a new community in various ways, including:

- Strengthening neighborhoods. Intergenerational interactions and diversity strengthens civic engagement and enriches families and the community.
- Educating and enriching children. Older adults play an expanding role in the education of children, including mentoring and tutoring. Further, the power of the older adult vote on education and community issues should not be underestimated.
- Civic engagement. Service to community benefits older adults as well as the community. Mechanisms to engage older adults as volunteers, advocates, trainers and community leaders are a key component of the new community.

Conclusions

- UMore Park and its future community can be a model for innovation that supports educational opportunities for children, youth and adults (including senior adults).
- The imprimatur of the University of Minnesota brings a powerful and unique character to this community for better living. The ability to integrate education, health and energy into the fabric of the community – through discovery – creates a vibrant destination for residents, neighbors in the surrounding regions and visitors.
- Powerful and successful schools are contextual. They are integrated with the community and its residents. Planning for the future – and a future community – must emphasize flexibility to grow a school system and lifelong learning programs in tandem with its community.
- A new school and/or school system should be innovative, unique and offer models for new approaches to education – a prenatal to post-secondary continuum, teacher development and renewal, community engagement, lifelong learning.

- Older adults – the increasingly large cohort of retiring baby boomers and elders – should be drawn into this new community to increase community expertise, richness of experience and strengthen community networks, learning and volunteerism.
- Engagement in the vision for a new community should start as soon as possible:
 - Involve an intergenerational cross section of community members to create the vision for educational opportunities in a new community.
 - Involve youth and older adults in discussions and planning.
 - Involve school districts, other public and private entities and the local business community – the range of potential partners – in the region surrounding UMore Park in visioning, even before master planning is initiated.

Recommendations

A focal point of the community's center will be a University-founded library. This library will serve as the community hub that provides information services, books and publications for learning and enjoyment, access and applications of state-of-the-art technology and linkages to the University of Minnesota library system, the top-ranked research library in North America.

But this library will stretch further into the community by offering information sessions, classes, seminars and Q&A forums that feature University researchers and educators to address issues of the day that impact citizens, such as diet and nutrition; obesity in children and adults; management of diet-related chronic diseases such as diabetes, cancer and heart disease. Gardening and yard care; relationships of communities to water quality (in the local Vermillion River watershed, the Mississippi River and Minnesota's lakes; alternative energy and Minnesota's future in biofuels, wind and other renewable energy options; energy-efficient homes, vehicles and buildings; and a range of topics of interest to the community.

Further, this library will more fully serve the community, based on age-level interests. For example, an emphasis on early childhood learning and development serve interests at the prenatal through three-year-old levels. Specialists from the University's Children, Youth and Families Consortium and other programs will be available on site to respond to requests and direct parents and other interested individuals to on-line resources. The library will also segment programming within the pre-kindergarten through 12th grade age group. Strong relationships with local and surrounding school districts will engage children and youth through summer programs as well as through school curriculum. Teenagers can explore career options, post-secondary opportunities and job preparation with the assistance of specialists attuned to the needs and interests of this age group. Professional development opportunities linked to the University and teacher-training sessions will benefit educators and their students. Active retirees will find assistance in connecting to volunteer opportunities as well as educational programming, classes, and travel. Older senior adults will have the immediate access to assistance and a network that can provide social and intergenerational interaction and connections to transportation and health information. Importantly, health and wellness expertise will be fully integrated into programming at all age levels.

Select Sources and Resources

- Center for School Change, <http://www.hhh.umn.edu/centers/school-change/index.html>
- National Clearinghouse for Educational Facilities, National Institute of Building Sciences, <http://www.edfacilities.org>
- The Federal Reserve Bank of Minneapolis, <http://www.mpls.frb.org/research/studies/earlychild/>
- Harlem Children's Zone, <http://www.hcz.org>
- Middle Country Public Library, <http://www.mcpl.lib.ny.us>
- Metropolitan Area Agency on Aging, <http://www.tcaging.org>
- Grantmakers In Aging, www.giaging.org

STEERING COMMITTEE STUDY OF HEALTH

UMore Park Strategic Planning: Opportunities through Health

Lifestyle-related diseases impact people and health care costs. More than half of health care costs, those related to obesity, diabetes, and heart disease, are largely preventable through lifestyle choices.

Can the University of Minnesota provide leadership in developing communities that encourage people to lead healthier lives? Can the University imbed research within these communities for the betterment of society? Can these communities be designed to attract people to live in them? This committee thinks the University can.

This vision involves a systems approach that encompasses food; diet and nutrition; exercise; community, business, and home design; health care; education; mental health; youth; social work; and progressive care for aging as part of a vibrant community. This vision also recognizes that maintaining water, air and environmental quality, and life-long learning are part of a healthy society.

Health is not something that exists independently or as a discrete part of our lives. How we eat, raise and educate our citizens, design cities, use energy, incorporate the arts and the natural environment, provide energy, and move from place to place all affect our health. As a University we have the intellectual capacity to team with the private sector to envision communities that will be sustainable for a millennium, not just for a few generations. We can envision and design communities that integrate the complex systems that impact our life and our health. We can do it in such a way that allows this entire city to be a non-intrusive research platform that will both help propel the University to its goal of being a top three research institute and demonstrate leadership as societies envision designing healthy communities that give hope to prudent use of resources and sustainable living for generations to come. A Health Care Initiative at UMore Park is a research, demonstration, and delivery platform imbedded into a welcoming and

comfortable place to live, work and play.

This concept is the promise of what the University can provide to citizens in addressing health challenges that face society, both today and into the future. It is a comprehensive and systematic approach to evaluating and improving the quality of life for the people we serve.

Goals for a UMore Park/University of Minnesota Health Initiative include:

- Obesity and diabetes rates for people living in this community are 20% below the average of their peers.
- Adults are able to be self-sufficient to an older age.
- Young people exercise more and eat healthier food.
- People participate more in wellness activities and have 10% lower health care costs than their peer groups.
- Suicide, domestic violence, alcoholism, drug use, teen pregnancy, and children in need of foster care are 20% lower than the regional average.
- Smoking and the associated diseases are 20% below the regional average.
- People in all age groups participate in extracurricular learning activities at 25% greater rates than the regional average.
- People exercise more than 20 minutes per day, at least 3 times per week 20% more than the regional average.
- The community uses 30% less fossil fuels, 20% less water, and reduces air and water impurities associated with the community 25% compared to the regional average.

We feel the University of Minnesota can lead an initiative to achieve these goals.

Key Findings:

Health is an encompassing concept that includes healthier living as well as health care. Already the University of Minnesota is emphasizing the relationships between diet and health through the President's interdisciplinary initiative on Healthy Foods, Healthy Lives, which focus on the collaborative research that can generate healthful outcomes for citizens, their families and communities. The University also engages with partners to provide increased opportunities for health and wellness. Neighborhood clinics, new research partnerships with the Mayo Clinic and a range of ongoing initiatives with Fairview are a few examples. The University's emphasis on food, health and lifestyle through research, education and engagement help position the institution among the top three public research universities in the world.

The proposed concept is an approach to Health that promotes:

- Healthier eating by providing access to healthier foods for all socioeconomic groups.
- Health education that targets specific needs of citizens.
- Exercise, activity and positive mental health through trails, parks, sidewalks, health centers, access to the arts, theaters, libraries, elder hostels, safe neighborhoods and communities, design that encourages social interaction, and educational ties to the University of Minnesota.
- Coordination and delivery of information and access to the amenities available in the community.
- Vital aging by consciously integrating the concepts described above into people's lives.
- An education system that focuses on lifelong learning and begins with prenatal care.
- A healthy, sustained environment and a safe and place for people to live.

- Health care and healthy living as an early amenity to attract people to live in the community.

In themselves, these concepts are not new or novel. There are models existing (and being developed) that encourage people to lead healthier lives. There are really two key differences and strengths in the proposed concept. The first is the integrated, systems approach to health and health care. The second is the research and education power of the University of Minnesota.

By incorporating the best that the world has to offer in terms of health care and the vision of research leaders we propose to:

- Incorporate into the design of a health care system, the ability to do research and evaluate the impact of this initiative through the University of Minnesota School of Public Health, private health care partners and others.
- Integrate the environment and our use of resources into our evaluation of human and community health.
- Incorporate lifelong education and ties with the University of Minnesota to encourage people to lead healthier lives.

Recommendations:

- Develop a UMore Park Health Initiative that integrates wellness, health care, exercise and amenities to attract people.
- A UMore Park Health Initiatives should focus on compelling societal issues. Specific issues, such as obesity, diabetes, heart disease resonate more with society than broad concepts.
- Tie these health initiatives into existing university health and wellness structure: Fairview, health services, education, family and social services, etc.
- Approach health as a continuum that encourages people to be physically and mentally active from prenatal needs to nursing care.

- This health system must be designed to provide leadership and vision that extend beyond the region and the State.

Places to investigate to expand the vision for progressive care in a living community include:

- Academy Village in Tucson, AZ
- Rossmoor – Walnut, Creek CA
- Boutwells Landing – Oak Parks Heights, MN

STEERING COMMITTEE STUDY OF ENERGY AND ENVIRONMENT

Umore Park Strategic Planning: Opportunities through Energy

Vision and Context

UMore Park is uniquely positioned at the rural edge of the Twin Cities metropolitan area, one of the 25 largest in the country and predicted to grow by a million people by 2030. Its proposed development as a new community by the University of Minnesota places our flagship land grant institution in an enviable, but also highly responsible position. The University's ownership of this land presents a singular and unique opportunity to express paradigm-altering approaches to multi- and interdisciplinary knowledge development that will serve as a global benchmark and, in so doing, provide an academic and financial legacy for the University.

The 5,000-acre parcel is an educational institutional landholding unique in the world. The University, in this moment of transformation, has the chance to integrate its investment in intellectual and real estate capital and its innovative approaches to research and development in a community that will epitomize the new hallmarks of a land grant university of world renown.

As development at UMore Park constitutes the making of a community, it also will be a living laboratory of human settlement at the urban/rural edge. This laboratory can be the setting of research, technological and ecological development that would inform the nature of sustainable

development in all human communities. Embedded in this proposition is the concept of a knowledge economy that would be the foundation of the tangible economy of the development.

The broad vision is to develop the land to integrate energy and environmental sustainability with the other core objectives of the project - education and health. This requires the development of a successful master plan that integrates quantitative design models for energy, water, land use/transportation, the carbon cycle, law and policy, and economic development.

Tangible benefits of this integrated approach to the University are both financial and academic:

- Create a new knowledge economy resulting in patents, publishing, public and private research relationships and opportunities as well as profits from investment shares in the development.
- Provide increased income for the University from land leases/sales made more valuable by the real estate development and its integration with the mission of the University.
- Illustrate a new paradigm for integrated and holistic research in a land grant research institution that already focuses on critical areas of synergistic research including the pharmaceutical/agricultural connection, carbon sequestration, energy development and conservation, alternative transportation systems.
- Create a critical mass of sustainable land resource-based industries with long-term economic gain for the University and State.
- Create new productive and more diverse yet integrated jobs, including training people for new technologies.

A unique mixed-use development at UMore Park will provide the following benefits to its residents and by extension to the surrounding communities:

- A reliable and non-polluting energy supply delivered at a lower cost that will remain stable over the long term
- The availability of renewable transportation fuel
- The application of deep energy conservation technologies to cold climate buildings that are flexibly designed to continuously accommodate new technologies, so providing an ongoing basis for minimizing energy costs.
- The University's involvement with education, health and research into sustainable development
- Demonstration of a lifestyle of the future that celebrates the increasingly multi-generational mix of society.

Sustainable economic real estate development at UMore Park depends upon the creation of an innovative integrated infrastructure that will provide added value for the residents, business and surrounding community. Efficient utilization and preservation of the earth's resources will provide practical and cultural enrichment of the UMore Park community. But here, innovative infrastructure is more than just extending existing metropolitan services into the site. Critically significant multidisciplinary research opportunities are embedded in the design and implementation of these practical infrastructure systems, attuned to the scale of the community development. These research opportunities will also provide the basis for leveraging resources through partnerships with both the private (developers, utilities, businesses) and public (DOE, EPA, DOT) sectors. In addition to the knowledge values created, these systems could provide the following direct revenue streams:

- Sale of electrical power and thermal energy to the development
- Sale of excess electrical power and dispatchable energy storage to a utility
- Sale of solid and liquid waste removal service to the development
- Sale of potable and process water to the development

- Sale of knowledge useful for academic research and marketing
- Sale of licenses for intellectual property commercialization
- Sale of carbon sequestration credits on the international market

Key Findings

In the design and planning for community and regional resources, deep conservation, efficient energy use and integration of renewable energy resources and other infrastructure using current and near-term practical and cost-effective technologies will be used to achieve an overall Gross Zero Energy development. Therefore, energy will be a significant factor in setting the scale for other infrastructure that can integrate water conservation, efficient and ecological storm water management, as well as waste and wastewater treatment. It is crucial that the development be guided by realistic, quantitative assessments of the available renewable energy resources.

The scale and costs of energy systems in relation to more holistic development objectives will be guided by the appropriate mix of on- and off-the-grid energy technologies. These systems would embrace new and existing design approaches and technologies in the fields (amongst others) of renewable energy (solar, wind, cellulosic and non-cellulosic biomass), energy conversion (for example, multiple junction, stretched lens array photovoltaics; simultaneous fermentation and saccharination cellulosic biomass conversion; oxygen and hydrogen enriched bio-fueled regenerative gas and steam turbine cascades; fuel cells, etc); energy storage (below-grade interstitial hydrogen and thermal reservoirs); integrated carbon cycles; agricultural energy production; energy conservation; data networking; and artificially intelligent control.

The sub-committee assumes that the University/Regents will select development Scenario D – Master Developer Partnership - and enter into a joint venture with an

experienced large-scale development company as well as other partners to prepare a Master Development Plan. This plan for a 21st century city, providing a community culture that reflects sustainable living, will integrate design for life-long-learning, health, and energy self-sufficiency.

In the creation of the Master Development Plan it is crucial that faculty, researchers and key design professionals within the University be engaged in a meaningful way as partners in this process. If a standard planning process is followed that does not effectively engage University knowledge and expertise, this opportunity could easily be squandered. Therefore, we think it important that the University establish and fund a faculty team to develop and integrate the quantitative design models necessary to describe an energy and environmental resource based development approach so that the long-term financial and academic yields can be maximized using practical and feasible development strategies. This faculty team, working under the direction of and in consultation with the UMore Park Steering Committee will be charged to:

- a. Prepare a comprehensive quantitative inventory of the renewable energy solar and wind capacity of UMore Park and the surrounding communities
- b. Complete a detailed due diligence review of the core enabling energy conservation and renewable energy generation technologies in terms of their current practicality and commercial availability
- c. Explore ways of generating transportation fuel both in the short and long term from the available renewable resources using currently available commercial technology
- d. Integrate sustainability with education and health into the design of the master plan

This holistic approach to the development of UMore Park affords a unique and unprecedented opportunity for the University of Minnesota to transform its land grant mission

with assets that could generate a wealth of academic, intellectual, economic and social benefits not only for the University and the State of Minnesota but for the world.

Examples of large-scale sustainable developments that embody some of the aspects proposed include:

- Viikki section of Helsinki, Finland
- Dongtan Eco-City – Shanghai, China
- Thames Gateway – London, England
- Calloway Gardens – Atlanta, GA
- North Charleston Sustainable Community Development – Charleston, SC

2. SUMMARY OF RECENT UNIVERSITY PLANNING ANALYSES

Summary

The University has issued previous analyses and reports for all or parts of UMore Park:

- 1997: The Rosemount Advisory Council drafts a mission statement that expresses a commitment to establishing a partnership between the community, businesses and the University to provide a world-class agricultural research and education center relating to environmentally-safe technologies at UMore Park.¹
- 1999: The University creates a plan to build on the Rosemount Advisory Council's mission statement by preserving University ownership of UMore Park; acknowledging the interests of surrounding communities; and balancing financial return on investment with social benefits and environmental health.²
- 2000: The University creates a plan that articulates a physical framework to realize the programmatic goals of the previous plans.³
- 2003: The Board of Regents approve the following mission and vision for UMore Park:

A living laboratory at an active urban/rural edge used for teaching research and community education about contemporary issues such as land use history and planning, agriculture, natural resources, health, environment, energy and water;

A large, University-owned property with a rich and varied history that demonstrates the impact of different kinds

of land uses, the significance of research in addressing both rural and urban issues, and that increasingly serves a wider variety of programs and societal needs appropriate to the site;

A diverse landscape for the pursuit and demonstration of design excellence and environmental restoration at the urban/rural edge of the Twin Cities; and

A regional treasure for the public interpretation, exploration and enjoyment of Minnesota's natural and cultural heritage.⁴

- 2004: The University-sponsored UMore Park Management Team develops a plan to ensure orderly development of UMore Park in support of the 2003 Board of Regents vision and mission for the land;⁵
- 2005: A University-appointed Executive Committee recommended initiation of a planning process to create a lasting legacy at UMore Park in support of University research objectives. The Committee recommended stewardship of the land and reinvestment of financial gain into a perpetual endowment to fund academic priorities.⁶

1 University of Minnesota College of Agricultural, Food and Environmental Sciences. Agricultural Research and Education at Rosemount. Minneapolis, Minnesota, 1997

2 University of Minnesota Center for Rural Design. Integrated Land Planning Framework for the University of Minnesota Rosemount/Empire Property. Minneapolis, Minnesota, 1999 (Adopted by the University of Minnesota Board of Regents, 1999)

3 Urban Strategies Inc / Colliers Towle Real Estate / The Rise Group. UMore Park: Cultivating a Landscape for Knowledge: Management Plan for the University of Minnesota Outreach, Research, and Education Park. Toronto, Ontario, 2000

4 University of Minnesota UMore Park Strategic Plan, March 18, 2003.

5 UMore Park Management Team. Master Plan for UMore Park, July 2004. Minneapolis, Minnesota, 2004

6 University of Minnesota College of Architecture and Landscape and College of Agricultural, Food and Environmental Sciences. The University of Minnesota and UMore Park: Research-Based Legacy Through Sustainable Development. Minneapolis, Minnesota, 2005

3. GOPHER ORDNANCE WORKS

Portions of UMore Park were once part of the “Gopher Ordnance Works” (GOW). The GOW consisted of nearly 900 buildings, with related roads, railroad tracks, utilities and infrastructure, distributed across 12,000 acres acquired by the United States Government in 1941 and 1942. GOW was one of five facilities designed, constructed and operated by E.I. DuPont de Nemours Company during WWII to produce smokeless cannon and rifle powder, oleum (concentrated sulphuric acid), and related products.

Two almost identical munitions production facilities were intended for GOW. The first, primarily on the northeastern part of the property, reconditioned used and manufactured new gunpowder (nitrocellulose) and related bi-products for approximately 11 months during late 1944 and 1945. The second production facility, located primarily in the north central part of the property, reportedly never became operational. Numerous facilities supporting the manufacturing operation were also built and operated by the United States Government and its contractor at the site, including two large steam plants, a water treatment plant, several sewage pump stations, sandblasting shops, a paint shop and storage, carpenter shops, millwright and machine shops, garage and repair shops, a car wash, a locomotive house, laundries, sheet metal shops, and a gas station.

Following the end of WWII in 1945, and continuing through 1947, a majority of the GOW buildings were dismantled, burned, salvaged and/or were otherwise disposed. Presently, the site still contains a number of WWII-era buildings, as well as hundreds of assorted foundations, footings, remnants and rubble associated with the former GOW facilities. In 1946 the GOW was designated as “surplus” property by the War Department and the University submitted a proposal to acquire approximately 8,000 acres for research and educational purposes. The University’s proposal was approved and in 1947 and 1948 the property

was acquired by quit claim deeds under the Surplus Property Act of 1944. The University was required, as a condition of the Federal Government, to use the property for educational and research purposes for at least 30 years.

Prior to its acquisition by the Federal Government, the land was in private hands and used primarily for agriculture. Since being acquired by the University, the land has been put to productive use and been devoted mainly to crop production and agricultural and other research.

The portion of UMore Park transferred to the University in 1947 includes, generally, the western one-third of the 5,000 acre site studied by the Steering Committee. The remaining two-thirds of this site, which includes the land that saw the most intensive industrial development and use in WWII, was transferred to the University in 1948. The USACE has acknowledged responsibility for the environmental investigation and any necessary clean-up of any environmental issues present on the 1947 parcel as a result of GOW activities. As discussed below, the USACE has completed a Preliminary Assessment Report under the Formerly Used Defense Sites (FUDS) Program regarding the 1947 parcel, and has scheduled and funded a site investigation. However, the USACE has thus far taken the position that there are no FUDS-eligible projects on the vast majority of the land transferred to the University in 1948. As a result, less is known about the environmental condition of the 1948 parcel.

The USACE conducted several environmental inspections and investigations of GOW between 1985 and 1999 as part of the FUDS program. In 2006, the USACE completed a Preliminary Assessment Report for the 1947 parcel consisting of a review of available documents and a site reconnaissance. If GOW activities in an area could pose a potential environmental concern, that area was designated as an Area of Concern (AOC). Three AOCs were identified in the area north of 170th Street and west of Akron Avenue:

- AOC3 consists of depressions that held water from various shipping and storage areas.
- AOC 5 consists of land improved with explosives storage bunkers, seven of which are still present.
- AOC6 consists of an area near 154th Street where construction and perhaps demolition debris such as concrete and rebar appears to have been deposited in two former borrow areas.

Presently, there is no analytical testing data available regarding these three AOCs.

In 2003, the University and the Minnesota Pollution Control Agency jointly funded a limited environmental investigation of six production areas of GOW, five of which were located within the 1948 parcel: the Oleum Plant, the Nitric Acid Plant, the Burning Grounds, the Waste Water Treatment Plant/Power Plant "A", and the Main Shops Area. The results of this investigation are summarized in the Phase I Environmental Assessment prepared by Peer Engineering, Inc. (July 2006) (Phase I), which is described below.

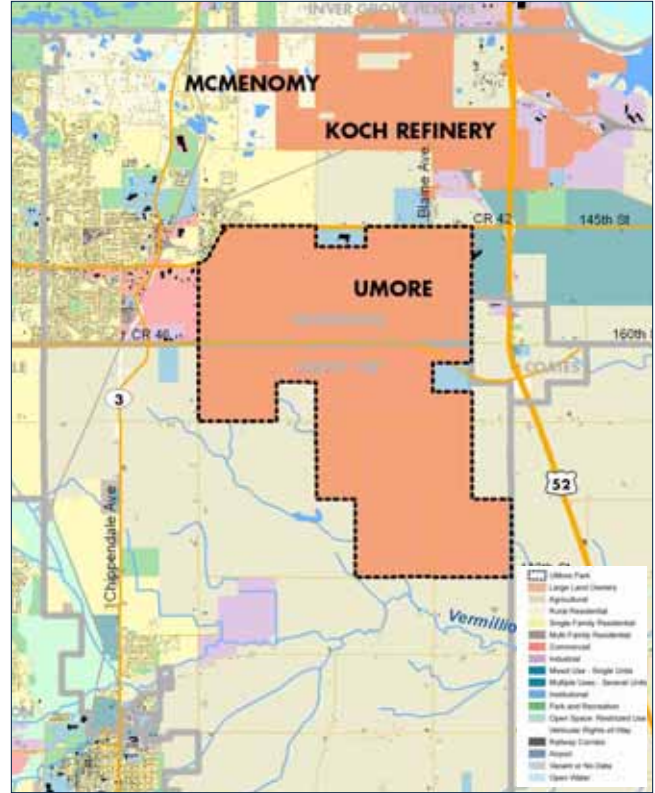
In anticipation of its report to the Board of Regents, the Steering Committee directed that the Phase I be prepared. Peer Engineering, Inc. was selected through a competitive process to do this work and delivered its report on July 26, 2006. Because large numbers of concrete remnants from the GOW's activities consisting of approximately 200,000 cubic yards of concrete are present on the site

and the cost of removing them (or, conversely, the benefit of recycling them) could be a material factor in determining the future of the site, the Steering Committee also directed that a concrete remnant assessment be prepared. After a competitive bidding process, the University recently retained Peer to perform an assessment of the concrete remnants, which was based in part upon a scope of work prepared by DPRA, Inc. dated June 30, 2006. This concrete study to be undertaken by Peer, which is to be completed by September 30, 2006, will include: (1) a refined volume estimate of the concrete remnants and ruins present on the 1948 parcel; (2) the environmental condition of selected, representative concrete remnants and soils located adjacent to those remnants; and (3) analyses and recommendations regarding mitigation measures, disposal options and reuse scenarios for any environmentally-impacted concrete remnants or ruins.

With respect to the AOCs on the 1947 parcel, the USACE has advised the University that it will conduct a site inspection (field work including intrusive testing) this fall and complete its assessment of data and the need for potential remedial actions within the next 1 ½ years. In addition, the USACE will prepare a preliminary assessment and site investigation with respect to a 26.7 acre area in the 1948 parcel that was the site of the power plant serving the operational production facility. This 26.7 acre area is generally located to the east of Blaine Avenue and just north of 160th Street.



UMORE PARK AND DNR LANDS



LAND OWNERS AT UMORE PARK

4. LAND OWNERSHIP

On May 24, 2006 the Governor signed into law legislation⁷ providing for partial funding by the State of Minnesota of a new, on-campus Gopher football Stadium. The University agreed, in order to reduce the amount students will pay toward the stadium costs to transfer 2,840 acres of UMore Park to the Minnesota Department of Natural Resources (DNR) after the State has fulfilled its obligation to pay its cost of the stadium.⁸ The legislation requires the State to make payments over a 25-year term ending in 2032. If the State fails to make the required payments, the University will not be required to offer the land to the State.

The land that is eligible for transfer lies generally south of 170th Street. Legislation provides that, even after the land is transferred to the state in 2032, the University would

⁷ Minnesota Laws 2006, Chapter 247, Sections 137.50, 137.52, and 137.54

⁸ Minnesota Laws 2006, Chapter 247, Sections 137.50, 137.52, and 137.54

retain rights in perpetuity for its academic mission: research, education, and engagement.

The legislation requires the University to impose negative covenants on the land precluding residential, commercial or industrial development and to enter into negotiations with the DNR for a joint powers agreement or conservation easement that will allow the University to continue its research on the land while at the same time allowing for the development of outdoor recreational uses and land preservation. The University and DNR are to cooperatively manage the property and any proceeds from its use by University tenants will be dedicated to the operation and maintenance of the property.

The law allows the DNR to designate which land is to be conveyed to it and to designate other public agencies as grantees of land DNR chooses not to acquire. Dakota County has been assembling land near UMore Park for recreational

uses, and the legislation allows DNR to designate it as a transferee. The law contemplates that DNR and other agencies may seek title to less than all of the land, in which case the negative covenants would still remain in place. Following signing of the bill in May 2006, The University, the DNR, and Dakota County initiated discussions intended to lead to an agreement before the start of the 2007 legislative session. Among the things being discussed are the kinds and placement of recreational activities that will be allowed on the land, potential natural vegetation restoration and the extent to which the land will be used for agricultural production.

