5. APPENDIX

APPENDIX CONTENTS

INTRODUCTION

Examination of best practices on a variety of topics was primary to crafting the Vision Elements of this plan. This research was compiled into in-depth case studies and less detailed examples that can direct further research and education. The UMED District Plan Cogeneration Report Update 2013 was a required element of the state of Alaska grant. Since its publication in 2013 the report has been used extensively by the UMED organizations and other interested parties throughout the state of Alaska.

CASE STUDIES

The Transportation Demand Management case study analyzes methods for: improving access, relieving traffic congestion, managing parking, and leveraging existing transportation infrastructure, reducing transportation costs for users, reducing transportation development costs, and meeting sustainability goals. This section presents detailed analysis of TDM issues and identifies examples from around the country. Sources are also provided for additional research.

The case study on mixed-use land development focuses on the financial mechanisms and the partnerships that enable mixed-use development to occur. The case study examines three developments within relevant university neighborhoods: University Square in Madison, Wisconsin; the Uptown in Cleveland, Ohio; and the University Marketplace in Vancouver, Canada. These case studies explain how revitalization of strip commercial centers, public-private partnerships, and cross organizational collaboration come together in realizing mixed-use development.

Finally, the case study on natural resources examines topics relating to the Natural Resources vision element in the UMED District Plan Update. Topics covered in this case study include water quality, urban forests, land development, and urban wildlife.

EXAMPLES

The Examples are less in-depth than the Case Studies and are meant to highlight best practices, generate creative ideas, and provide resources to guide further research. The examples of positive town-gown relationships examine methods for encouraging relationships between organizations and the residential communities they are situated in. The examples of night lighting and light pollution focus on the prevention of light pollution at night. Finally, the examples of fresh food access provide examples of farmers' markets and mobile food vendors which provide good interim access to fresh foods while the UMED District plans for growth. Finally, cross organizational collaboration focuses existing positive models within the UMED District for coordinated planning and growth.

SUPPORTING DOCUMENTS SUMMARY

This section contains a detailed summary of the Supporting Documents. The Supporting Documents report is a separate publication that contains an in-depth summary of various existing conditions within the District. The analysis presented in this document provided beneficial information critical to shaping the UMED District Plan Update.

5.1 CASE STUDY: TRANSPORTATION DEMAND MANAGEMENT

This section summarizes Kittelson & Associates, Inc.'s assessment of Transportation Demand Management (TDM) strategies for the UMED District Master Plan Update in Anchorage, Alaska. It includes relevant background on TDM and its effectiveness, as well as case studies featuring new emerging transportation practices and TDM strategies from other areas. It concludes with a menu of proposed TDM strategies for consideration at the UMED District.

INTRODUCTION

Transportation Demand Management or Travel Demand Management (both TDM) is the application of effective strategies and policies to reduce travel demand [specifically that of single-occupancy private vehicles (SOV)], or to redistribute this demand in space or in time. TDM efforts are targeted in a way that strives to balance the relationship, in both convenience and cost, between driving alone and using "alternative modes," which include transit, biking, walking, skiing, car-sharing, and/or telecommuting. The most successful TDM programs are (a) directed toward meeting clear targets or goals for trip choice across all modes and (b) tailored to the unique qualities and factors that distinguish an access area or supply.

There are many reasons for pursuing TDM plans and measures. These include:

- Creating more access options for users;

- Managing congestion;

- Reducing constraints on existing parking supplies/ avoiding costly parking expansions;

- Leveraging existing resources (e.g., transit, bike lanes, shuttles, park & ride lots);

- Reducing transportation costs to users;

- Reducing development costs; and/or

- Contributing to and meeting environmental and sustainability goals.

Although TDM programs and measures are often focused on employers, some elements are also applicable to residential developments. Government support (particularly related to zoning, development regulations, and infrastructure provisions) can be influential in maximizing the effectiveness of TDM programs.

Many areas have opted to create a transportation management association (TMA) to develop and support a TDM program.

TMAs are associations of public and private entities that work to solve traffic congestion and transportation issues in a specific area. Typically, TMAs help facilitate commuter support strategies for businesses in the area. The TMA may help advocate on behalf of its membership. TMAs can typically provide and manage TDM programs more efficiently than individual organizations.

EFFECTIVENESS

A variety of research has been conducted to assess the effectiveness of TDM strategies. Based on a review of relevant research, the following conclusions were made:

- The trip reduction that can be achieved at a given development is heavily influenced by the environment in which the development is located. Factors like transit service, the pedestrian and bicycle environment, parking availability, density, and mix of uses significantly impact the types of trips generated to and from the development.

- Although a number of employers have conducted employee surveys to track the impact of TDM programs, research has found it difficult to isolate the impact of individual strategies on overall trip reduction. This is due to issues like differences in survey definitions of TDM strategies, lack of specificity regarding level of employer program support (particularly in terms of financial incentives), lack of tracking of individual employee travel patterns over time, and lack of knowledge of environmental conditions at a particular employer (e.g., carpool lane provision, level of transit service, pedestrian environment).

- Research has shown that the effects of individual strategies are not additive: a particular strategy may have a stronger effect when it is the only strategy provided, compared to when it is included as part of a package of strategies.

- The combination of good environment and good TDM can result in significant trip reduction.

RESOURCES

The following resources were reviewed as part of this project and are recommended for further reading on TDM:

TCRP REPORT 95, CHAPTER 19: EMPLOYER AND INSTITUTIONAL TDM STRATEGIES (2010)
The Transit Cooperative Research Program (TCRP) Report 95: Traveler Response to Transportation System Changes Handbook series consists of 19 chapters.

The chapters were published as separate volumes over a period of years. The handbook provides information on the travel demand effects of a variety of urban transportation policies, such as transit pricing and fares (Chapter 12), transit-oriented development (Chapter 17), and parking management (Chapter 18). Chapter 19, Employer and Institutional TDM Strategies, is the most recent comprehensive review available of the relative importance and impacts of TDM strategies.

Chapter 19 of the handbook provides a description of the various TDM strategies, and classifies them in to the following broader types of strategies:

- Employer or Institutional support Actions

- Provision of Transportation Services

- Financial Incentives or Disincentives

- Alternative Work Arrangements

The report compiled the data from four independent studies to amass a sample of 82 TDM programs in order to make assessments about the effectiveness of the different types of TDM strategies. To assess effectiveness, the report uses vehicle trip reduction (VTR), defined as the "incremental reduction achieved in the vehicle trip rate, expressed as a percentage of the starting-point trip rate."

It also discusses employee participation and the cost effectiveness of the types of TDM strategies. Lastly, the report provides five case studies of TDM programs that include marketing and outreach programs, transit programs, staggered work hours and a transportation management association (TMA).

This handbook was primarily used to provide a comprehensive overview of a large variety of TDM strategies and estimate the effectiveness of the strategies recommended for the UMED District. It is available for download online at: www.trb.org/Publications/TCRPReport95.aspx

TCRP REPORT 95, CHAPTER 13: PARKING PRICING AND FEES (2006)
Chapter 13 of TCRP Report 95 provides a review of traveler response to the introduction of parking pricing and fees and to changes in parking fees. It discusses a variety of types of parking pricing strategies and the anticipated traveler response. The report concludes that TDM programs based on carefully balanced cost incentive/disincentive actions and offering realistic travel alternatives tend not only to have visibly grater effect on employee vehicle trip rates, but also to sustain those changes over time."

The report discusses the underlying factors that impact how travels respond to parking pricing strategies. Understanding these factors is important for predicting how successful a parking pricing program will be and maximizing the effectiveness of such a strategy.
The factors include:

- Income: higher income travelers may be less sensitive to changes in prices for parking.

- Parking Supply/Management: parking fee programs are more easily implemented in environments where the parking supply is limited.

- Land Use and Site Design: favorable land use characteristics and site design make parking pricing much more likely to be successful.

- Travel Alternatives: attractive, available travel alternatives will impact the degree to which parking pricing will be effective.

The report includes four case studies of different parking programs. It is available for download online at: www.trb.org/Publications/TCRPReport95.aspx

ONLINE TDM ENCYCLOPEDIA

Todd Litman of the Victoria Transport Policy Institute, based in Victoria, British Columbia, compiles and regularly updates research findings on TDM and publishes them on the web as the Online TDM Encyclopedia. The "TDM Strategies" section provides individual pages relating to specific TDM strategies, organized into the following major categories according to how the strategy affects travel:

- Improved Transport Options
- Incentives To Use Alternative Modes and Reduce Driving
- Parking and Land Use Management
- Policy And Institutional Reforms

The encyclopedia provides a description of each strategy, anticipated travel impacts, benefits and costs, equity impacts, applications, relationships with other TDM strategies, guidance on implementing, best practices, examples, and references for more information.

The breadth of strategies covered is very extensive and the encyclopedia serves as a search tool for accessing other relevant research. The encyclopedia is available at: www.vtpi.org/tdm

TCRP REPORT 107: ANALYZING THE EFFECTIVENESS OF COMMUTER BENEFIT PROGRAMS (2005)

Transit Cooperative Research Program (TCRP) Report 107 provides research from metropolitan areas across the US that examines the effectiveness of transit benefits programs on employee travel behavior and on transit agency ridership, revenues, and costs. The report is broken in to three chapters, which include:

- An overview of commuter benefits

- Guidance on how to evaluate the effectiveness of a transit benefits program, although the guidance can be applied to all types of commuter benefits programs.

- Research on the effects of transit benefits programs.

The report details the pros and cons of a variety of types of transit pass programs and provide examples. It is available for download online here: www.trb.org/Publications/Blurbs/156427.aspx

TDM CASE STUDIES

The following case studies feature the application of TDM strategies in developments, cities, and colleges across the country.

They provide relevant examples for transportation practices and strategies that may be applicable to the UMED District. Each case is summarized below, with an emphasis on the potential applicability to the UMED District.

ANCHORAGE DOWNTOWN IMPROVEMENT DISTRICT (ANCHORAGE, ALASKA)

The Anchorage Downtown Improvement District (ADID) was established by the Anchorage Assembly with an ordinance in 1998. The purpose of the improvement district is to provide additional municipal services in the 113 square blocks of the downtown Anchorage area. The additional services include downtown ambassadors to provide information and safety/security assistance, cleaning crews for sidewalks, graffiti removal, coordination with Municipal law enforcement, and active promotion of public events in downtown.

The Anchorage Downtown Partnership (ADP) was formed with the mission to "increase cleanliness, occupancy rates, and investment values and lease income, to decrease crime, and to generally stimulate economic development and improve the quality of life in downtown Anchorage."

The ADP includes administrative staff, security staff, and a maintenance team. In addition, the Anchorage Community Development Authority (ACDA) works to support public-private partnerships and develop creative parking solutions in the downtown area.

The majority of the funding for the ADID was established in the ordinance process and consists of additional property assessments administered through the MOA. Additional funds are raised for the ADIP in the form of donations and grants as well as dues paid by the members of ADP.

Potential Applicability to UMED District

The Municipality of Anchorage could consider creating an improvement district for the UMED area to help fund common services like street cleaning, snow removal, and parking facilities. However, the funding of the improvement district would require special assessments or dues as large portions of the property in the UMED District currently have tax exempt status.

LLOYD CENTER TMA (PORTLAND, OREGON)

Transportation Management Associations (TMAs) within the City of Portland serve as the institutional framework and coordinating entities for TDM programs.[34] The TMAs are non-profit, member-controlled organizations that provide transportation services within a defined area such as a commercial district, mall, medical center or industrial park. The Lloyd District TMA is a commonly cited example and represents a partnership between property owners and businesses within the Lloyd District, the City of Portland, and TriMet (public transportation agency).

First formed in 1994, the Lloyd District TMA developed a comprehensive partnership agreement that was implemented in 1997. The TMA's recommended package of improvements included efforts to:

- Improve transit service;
- Improve access and amenities for bicycling and walking;
- Set maximum parking ratios for new office and retail development;
- Manage and limit the supply of parking on large surface parking lots;
- Develop a plan for installing parking controls and parking meters in the district to eliminate free on and off-street commuter parking spaces;
- Complete agreements by the private sector to support and implement employee transit subsidy programs;
- Establish a private sector funding program through formation of a Business Improvement District;
- Implement the Lloyd District Partnership Plan and its associated employer based transportation program; and
- Share parking meter revenues (through the Lloyd District TMA) to support transportation and parking services within the Lloyd District.

The TMA partnership approach exemplified by the Lloyd District TMA appears to be a win-win for the City and locals as it helps the City by monitoring the TDM success and failures as well as offering local business and residents an opportunity to participate in efforts to reduce traffic and vehicle trips.

Separate from the TMAs, the City of Portland also offers individualized TDM marketing to all downtown employees through its Smart Trips program.

Potential Applicability to UMED District

The TMA approach appears viable and applicable to the UMED District. Due to the number of individual employers and institutions within the District, creating one over-arching organization to develop and administer TDM programs could be most efficient. A TMA can mitigate traffic congestion and transportation issues in a specific area and facilitate commuter support strategies for participating businesses and institutions. The TMA may help advocate on behalf of its members, help secure discount transit passes, provide car-sharing services, or facilitate Guaranteed Ride Home programs. The TMA may also facilitate discussions and programs related to a district-wide shuttle bus system, shared parking, and snow removal. Many employer-based programs and services may be more effectively and efficiently provided through a TMA than by individual businesses.

CITY OF BEND, OREGON

The City of Bend has a TDM option that allows a developer/applicant to reduce their trip generation for traffic study purposes by creating a TDM Program.[35] Chapter 4.7 of the Bend Development Code states "The applicant may choose to develop a TDM program to reduce net new trip generation for a proposed project when trip reductions are necessary to minimize off-site mitigation requirements. Proposed elements of the TDM program will be evaluated to determine trip reduction rates."

Per Bend Development Code Chapter 4.7, the following trip reduction rates shall be applied if a TDM program with these elements is developed by the applicant:

- Provide employee showers, lockers, and secure bike parking according to requirements of the Bend Development Code - five percent (5%) trip reduction;

- Project is located within ¼ mile of a transit route – five percent (5%) trip reduction;

- Project is located within ¼ mile of a transit route and employer provides free or significantly reduced monthly bus passes to employees - ten percent (10%) trip reduction;

- Project provides free priority parking for carpools/vanpools – five percent (5%) trip reduction;

- Project provides free priority parking for carpools/vanpools but fee non-priority parking for other employees - ten (10%) trip reduction;

- Other TDM elements as approved by the City Engineer;

- Maximum trip reduction for combined TDM program elements - twenty-five (25%) trip reduction.

The Transportation Impact Study is required to show that the proposed trip reductions will be adequate to reduce the development's trips and bring the transportation system into compliance with the operations criteria. A modification to the original site plan approval must be obtained if TDM program elements change significantly.

Separate from the developer driven TDM effort, the City of Bend created the TravelSmart program to provide public outreach that encourages people to use alternate modes of transportation and reduce single occupant vehicle trips. The TravelSmart program includes direct contact with individual households to help people evaluate and choose alternate modes as well as encouragement to use mobility options throughout the day for all trips.

While Bend Development Code Chapter 4.7 allows for the reduction of vehicle impacts as part of the entitlement process, it is unclear to what extent this mechanism has been used or how it is enforced beyond the initial land use conditions of approval for off-site mitigation measures.

Potential Applicability to UMED District
The Municipality of Anchorage could consider creating an incentive-based program to encourage existing and new developments in the District to develop TDM plans and/or provided TDM programs for the UMED District. An incentive-based program would require modification to the traffic impact analysis process under the direction of the Municipal traffic engineer or an amendment to the Municipality of Anchorage Development Code.

Land Use	Minimum Size Triggering TMP
Office	50,000 or more square feet of usable space.
Retail	40,000 or more square feet of usable retail sales space.
Industrial	150,000 or more square feet of usable industrial space.
Residential	250 or more dwelling units.
Mixed-use	Any combination of space including one or more of the foregoing uses, at the threshold size applicable to that use. If the threshold is satisfied in any of the uses, the TMP must be prepared for all uses present in the project.

Figure 55. Land Use Sizes to Prepare TMP

ALEXANDRIA, VIRGINIA

The City of Alexandria has operated and maintained a TDM program for over 20 years (the implementing ordinance dates to May 1987).[36] The City recently updated their Long-Range TDM plan (called Local Motion) that incorporates goals and objectives and offers ways to achieve them.

As part of the TDM program, the City requires developments of a certain minimum size to create a transportation management plan (TMP) prior to the issuance of building permits. These plans must be funded and monitored by the developers/applicants and are enforced closely by staff.

Per the local ordinance requirements, the land uses in the following chart must prepare TMPs. The TMPs are conveyed in perpetuity with the land. To ensure the TMP continues, applicant/developer parties are required to prepare appropriate language to inform tenants/owners of the TMP special use permit and conditions therein prior to the signing of any lease/purchase agreements. The City Attorney's office reviews and approves the language.

To provide flexibility, the Transportation and Environmental Services Department Director (the department administering the TMPs) is allowed to approve modifications to TMP activities if the changes are consistent with the goals of the TMP.

The City conducted an audit in July of 2006 and found that 54 transportation management plans had been prepared to date. Of the 54 plans, 45 were active; 3 were prepared but the projects developed in a manner that did not require a TMP or were not developed, and 6 had been prepared and were in the approval process. City staff administers a compliance verification program that includes:

- A Semi-annual Fund Report used to record the TMP financial contributions made by a TMP holder to support the transportation activities;

- Residential and commercial surveys used by residents and employees of developments holding a TMP;[37] and

- A TMP Annual Report with a narrative of the TMP activities completed each year, including a summary of the survey and identification of TMP activities are planned for the coming year.

Potential Applicability to UMED District

The Municipality of Anchorage could consider creating a requirement for developments of a specified size to develop TDM plans. The requirement for TDM plans would an amendment to the Municipality of Anchorage Development Code.

PORTLAND COMMUNITY COLLEGE (PCC)

The Parking & Transportation Department at PCC created its first TDM plan for the community college in 1992. Since then, PCC conducted a transportation study in 2007/2008 to assess transportation needs and options, travel behavior and opinions, and transportation related goals and strategies. The intent of the study was to review progress made through the TDM program and provide recommendations for improvements. PCC updated its TDM plan in 2012 through a process that involved broad outreach and targeted involvement as well as an extensive review of existing transportation facilities at each of the campuses throughout the Portland area.

The recommended parking and access management strategies in the TDM plan are organized by the following categories:

- Policy Actions
- Transit Access
- PCC Shuttle Access
- Single Occupant Vehicle Access
- Rideshare Access
- Organization for Implementation & Monitoring
- Bike/Walk Access
- Technological Access
- Communication/Awareness
- External Partners
- TDM Support

Within each category, strategies are organized in to a "core program" and "support strategies." PCC's TDM plan is available online here: http://www.pcc.edu/resources/parking/sustainability.html

Potential Applicability to UMED District

Three elements of the PCC TDM plan that may be utilized in the UMED District are as follows:

- Parking Pricing Strategy – development of a parking price structure for the various user groups to encourage non-SOV usage. Parking rates were developed for full-time students, part-time students, faculty and staff, visitors, ride-share, and seniors.

- TDM & Sustainability Program Website – development of an interactive website to provide a general description of the TDM program, assistance with alternative travel mode choices, purchasing of parking permits, and explanation of rules and operations.

- Employee Transportation Options Coordinator – assignment of a transportation options coordinator to assist employees with commuter travel choices.

UNIVERSITY OF WASHINGTON

The University of Washington (UW) is the largest university in the Northwestern United States and one of the oldest universities on the West Coast. The university has three campuses, with its largest campus in the University District of Seattle. UW also has two other campuses located in Tacoma and Bothell. UW has approximately 4,000 instructional faculty and 43,000 students.

The University of Washington uses a program called the U-Pass. Developed in 1991, the program is so successful that almost 80% of all trips made to UW Seattle are non-SOV. All students are automatically enrolled in the U-Pass program and can only "un-enroll" if they purchase a parking permit for the quarter. As part of the program, UW has secured partnerships with other local businesses to offer discounts to all students, staff, and faculty that use the U-Pass. UW conducts an annual survey to determine the reduction of daily vehicle trips. UW conducts a biennial survey of all U-Pass riders.

The University of Washington is working with King County, the City of Seattle, and their green team to implement a cohesive Climate Action Plan. As part of the plan, UW utilizes the following TDM measures:

- Inter-campus shuttle service

- Fee-based parking

- Guaranteed Ride Home

- Carpool matching, vanpool subsidy, and car sharing

- Bicycle parking

Potential Applicability to UMED District

The University of Washington TDM program has been very successful and the five primary elements listed in the previous section may help reduce SOV trips within to the UMED District.

STANFORD UNIVERSITY

Stanford University (Stanford) is a private research university on an 8,180-acre campus in Palo Alto, CA. It is situated approximately 20 miles northwest of San Jose and 37 miles southeast of San Francisco. Stanford has a student body of approximately 6,900 undergraduate and 8,400 graduate students.

Due to the high cost of housing, Stanford provides an opportunity for faculty members to live within walking or biking distance of campus. The faculty housing is composed of land owned entirely by Stanford. Similar to a condominium, the houses can be bought and sold but the land under the houses is rented on a 99-year lease. The program offers a free 15-route shuttle system that runs on biodiesel with two diesel-electric hybrid buses. Annual ridership on shuttle buses climbed to over 1.4 million in 2009.

Stanford's transportation program utilizes the county Eco-Pass. It also has a 7,500 member carpool database, and offers transit discounts for Cal train, VTA, Dumbarton Express and AC Transit's Line U. The program includes car sharing, commute planning, vanpools, and a bicycle support program.

Stanford has seen a 30% increase in shuttle ridership at the Cal train commuter rail station (30% between 2004 and 2009). In 2010, 52% of employees used alternative transportation to commute compared with 24% in Santa Clara County.

The Stanford TDM program focuses on "no net new commute trips during peak hours" as measured in 2001 for all new development and population growth.

The primary TDM measures at Stanford University include:

- Fee based parking
- Go Pass/ECO Pass Program
- Inter-campus shuttle
- Car rental subsidy and car sharing
- Bicycle parking

Stanford also provides a good model for a development-wide parking strategy. The Santa Clara County General Use Permit (GUP) for Stanford University sets a parking limitation for the campus as a whole. No one building has a designated maximum; rather, the quota limits the amount of parking allowed within the geographic area encompassing the university. Stanford's transportation planners use discretion in deciding where to build parking, and within the campus no parking lots have been made exclusive to specific buildings. For example, parking located beneath the Stanford Graduate School of Business is also used for people attending nearby sporting events. This holistic parking strategy gives the university the flexibility to reassess overall parking needs in an ongoing basis, without having to request parking permits from the county for every new project. Instead, the university meets with the county every ten to fifteen years to reassess the parking limitation set by the GUP.

- Per the current GUP, Stanford is given a limit of 2,300 additional parking spaces for the whole campus—Stanford already has 20,000 existing spaces.

- Permits may be granted for parking that is part of housing developments that exceed 3,018 units or housing in areas that are low and medium density. In addition, the GUP stipulates that the university will participate in a residential permit program to control parking in residential areas.

Potential Applicability to UMED District
The five primary elements of the successful Stanford TDM program listed above may be tailored to help the UMED District reduce SOV trips. Regarding shared parking, the Municipality of Anchorage could consider a parking limitation for the UMED District. This would require collaboration among the institutions to assess their collective parking needs.

UNIVERSITY OF CALIFORNIA – SAN FRANCISCO
The University of California at San Francisco (UCSF) is the second-largest employer in San Francisco, with approximately 22,500 paid faculty and staff (including both University and UCSF Medical Center employees). It has approximately 3,000 students enrolled in degree programs, 1,600 residents, and 1,000 postdoctoral scholars. The University has three main locations, including the original campus at Parnassus, the teaching and research campus at Mission Bay, and the Mount Zion campus, which is a hub of specialized medical center clinics and surgery services. All three campuses are located near downtown San Francisco.

UCSF qualified for the Bay Area's Best Workplaces for Commuters in 2012, which recognizes employers that are committed to "reducing traffic and air pollution and improving quality of life for commuters."

UCSF utilizes a number of TDM strategies at its campuses, including:

- Fee based parking
- Priority parking for "green vehicles"
- Discounted parking for registered carpools
- Shuttle service between campuses, San Francisco general hospital, and BART stations (with front bike racks)
- Bicycle parking, "Bike Access Pass" shower program, and discounted bike rentals
- Vanpool program with 12-passenger vans provided
- Emergency Ride Home service
- Discounted Car Share membership
- Pretax transit passes

The University is a partner in the San Francisco County Transportation Authority TDM Partnership Project. The project is intended to advance TDM throughout the city and build partnerships with and among private and institutional actors to more efficiently implement TDM programs.

Potential Applicability to UMED District
The elements of UCSF's TDM plan most applicable to the UMED District include discounted parking for registered carpools, vanpool program, and Emergency Ride Home service.

UNIVERSITY OF MINNESOTA – MINNEAPOLIS

The University of Minnesota, Twin Cities, is a public research university with its flagship campus in Minneapolis. There are about 52,500 students enrolled at the Twin Cities campus. The University has adopted a parking policy that "supports transportation alternatives to the single occupant vehicle." As a result, the policy states that "fewer parking spaces are needed on campus." The University's parking policy is a result of recommendations made by the 1999 Parking and Transportation Task Force.

Goals of the policy include reducing vehicular traffic, encouraging the use of park and ride facilities, reaching a split of 50 percent or fewer trips by private automobile (including carpooling), and set an upper limit on parking spaces.

The University provides a number of TDM programs, including:

- Fee based parking
- Campus shuttle service
- Discounted bus passes
- Bicycle parking and lockers
- Bicycle sharing program (in partnership with the City of Minneapolis)
- Pedestrian walkways, tunnels, and skyways connecting many buildings on campus

Potential Applicability to UMED District

The campus shuttle service and bicycle sharing program included in the University of Minnesota's TDM plan are likely most applicable to the UMED District.

TDM FOR THE UMED DISTRICT

Transportation Demand Management (TDM) strategies could be effective in the UMED District to:

- Capitalize on the mixed-uses in the area by encouraging non-SOV trips between the different uses and sharing resources (i.e. parking and shuttle service) across the development;

- Facilitate cooperative transportation services and programs among the diverse academic, medical, governmental, residential and commercial uses in the District;

- Utilize existing transit service and bicycle and pedestrian facilities, while strategically planning multi-modal facilities for the future;

- Efficiently plan facilities (i.e. parking and roadway improvements) for the future that meet transportation needs;

- Enhance the livability and sustainability of the UMED District by minimizing SOV-trips during peak periods and encouraging alternative modes of travel;

- Proactively guide the future development of the District to encourage multi-modal trips.

The following is a comprehensive menu of TDM strategies that may be applicable to the UMED District. The strategies are organized into employer-based programs and services, parking management, and development-based strategies. A short description of each strategy is provided. The strategies are summarized in Table 2.

EMPLOYER-BASED PROGRAMS AND SERVICES

Employers can set policies or create programs to manage travel demand. These may be individual – such as offering flexible work hours – or collective through a TMA that coordinates TDM programs for all participating employers. A TMA can mitigate traffic congestion and transportation issues in a specific area and facilitate commuter support strategies for participating businesses. The TMA may help advocate on behalf of its members, help secure discount transit passes, provide car-sharing services, or facilitate Guaranteed Ride Home programs. Many employer-based programs and services can be more effectively and efficiently provided through a TMA than by individual businesses.

In the UMED District, a TMA may be helpful in implementing effective TDM for businesses by working across the different uses to implement these strategies. The employer-based strategies are applicable to the academic, medical, governmental, and commercial uses in the District. Strategies include:

- Alternative work hours or tele-working: Alternative work schedules allow employees to work non-traditional hours to avoid traffic or reduce their number of trips to the office. There are several types of alternative work schedules, including flextime, compressed work week, and staggered shifts. Telecommuting programs allow an employee to work at a remote location (such as his or her home) one or more days a week instead of commuting to the work site. All of these strategies are intended to reduce total trips to the office, especially during peak hours.

- Transit Financial Incentives: Employers can offer prepaid or discounted transit passes to employees who agree to commute by transit. Fares can be partially or fully subsidized, or employees can be given the option to buy transit passes pre-tax. Employers could develop their own transit incentive programs or work together with the MOA Public Transportation Department to develop a program.

- Shuttle Bus Services: A private shuttle service operated by a TMA can supplement vital transit connections where gaps exist. Connections between the nearby transit stations or park-and-ride lots may allow employees to use non-auto commuting modes. In some cases, employers can use these shuttles to provide connections between different office locations in the area. The Seawolf Shuttle (UAA) and the ANMC Shuttle already operate in the UMED District and the routes may be modified and/or expanded to serve the entire District. Shuttles could meet commuters in a remote lot, thus reducing the SOV trips to the District, not just within it.

- Ridesharing: Ridesharing programs encourage carpooling or vanpooling. Carpooling typically uses participants' own automobiles, while vanpooling usually uses rented vans. Employers may put compatible commuters in touch with one another through simple employee match listings or computerized matching programs.

TDM Strategy	Implementation Time Frame			Effectiveness	Cost	Cost-Effectiveness Ratio
	Short-Term	Mid-Term	Long-Term			
Employer Based						
Alternative Work Schedules/Telecommuting	▬			▲	$	★★
Transit Financial Incentives	▬			▲	$-$$	★★
Shuttle Bus Services	▬			▲	$$	★★
Ridesharing	▬			▲	$	★★★
Commuter Support Services	▬			▲	$	★★★
End of Trip Facilities	▬	▬		▲	$-$$	★
Parking Management						
Parking Supply	▬	▬		▲	$$	★★
Parking Pricing	▬			▲	$	★★★
Employer-Focused Parking Strategies	▬			▲	$	★★★
Development-Wide Parking Strategies	▬	▬		▲	$	★★★
Development-Based Strategies						
Increasing Connectivity		▬		◊	$$-$$$	★★
Streetscape Improvements		▬	▬	◊	$$-$$$	★★
Area Pedestrian Improvements		▬		◊	$$-$$$	★★
Area Bicycle Improvements		▬		◊	$$-$$$	★★
Area Transit Improvements		▬		◊	$$-$$$	★★

Figure 56. TDM Strategies for the UMED District

- Ridesharing (continued): Employers may also use marketing programs, sponsor vanpools, provide preferential parking spaces, or offer financial incentives to encourage ridesharing. Employers could develop their own ridesharing incentive programs or work together with the MOA Public Transportation Department to develop a program.

- Commuter Support Services: Employers provide support services and programs that replace employees' reliance on having a personal vehicle and encourage employees to bike, walk, take transit, or rideshare instead. These programs can be tailored to address employees concerns with commuting by alternative modes, such as traveling to meetings, getting home in an emergency, or working late. Potential services include providing a Guaranteed Ride Home (GRH), the use of company vehicles, a corporate car sharing account, and reimbursement for business travel by transit or bike.

- End-of-Trip Facilities: Employers provide bicycle amenities like secure bicycle storage, lockers, showers, and changing facilities to encourage employees to bike or walk to work. Some communities have started to create standards for the minimum number of bicycle parking spaces required at buildings and other facilities. In some cases, bicycle parking may be substituted for a portion of automobile parking. Bicycle facilities are also a requirement for LEED Certification and to be eligible to be a "Bicycle Friendly Workplace."

PARKING MANAGEMENT

Parking management strategies provide incentives to non-single-occupant vehicle travel by eliminating or reducing subsidies for storing vehicles at the destination. Parking strategies should be comprehensive throughout the UMED District. Strategies like unbundled parking, shared parking, and parking pricing may be appropriate for the area. Rather than requiring individual entities to provide their own parking, parking could be provided for the area as a whole, with organizations funding a share of the cost, to the benefit of all.

A parking management program should be pursued along with other TDM strategies to ensure that there are attractive alternative travel choices in the UMED. It is important to ensure that adequate parking is provided (so as not to create problems like parking spill-over to adjacent uses, driver frustration, or discouraging people from traveling to the District).

However, opportunities exist to pursue strategies to discourage the construction of excess parking and relax once inflexible parking requirements. The parking needs of the UMED District should be closely assessed to ensure that an appropriate amount of parking is provided and that there are opportunities to strategically minimize the parking supply. Potential strategies to be pursued as part of a parking management plan include:

- Manage Parking Supply: The supply of parking can be managed to achieve strategic objectives, such as reducing the share of commuters that drive alone to work. If insufficient parking is provided, parking may spillover into adjacent areas or travelers may choose alternate destinations.

However, if too much parking is available, resources are wasted and drivers have less incentive to choose other modes of transport. Parking can be managed for an entire development, residential area, employment center, or commercial area. Some jurisdictions are developing parking maximums (as opposed to traditional parking minimums) for land uses and developments.

- Parking Pricing: Employers and institutions can impose parking pricing to reduce single occupancy vehicle (SOV) use, pass along the actual cost of parking from the provider to the user, and decrease the supply of parking spaces demanded. Parking pricing programs can be flat (i.e. same for all users) or variable depending on parking duration or vehicle occupancy. Fees can be collected via a parking permit program or meters.

- Employer-Focused Parking Strategies: Employers implement parking strategies to discourage employees from driving alone and instead encourage alternative modes of commuting to work. Strategies include:

  ◦ Parking Cash Out: Employers offer employees the option of exchanging their free parking spaces for the cash equivalent. The intent is to encourage employees to use the cash-out to offset the cost of other transportation options, such as walking, biking, or transit.

  ◦ Preferential Parking: Reserved parking spaces for employees that carpool or vanpool. Reserved spaces may be located near a building entrance or in a sheltered location.

- Development-Wide Parking Strategies: there are several other strategies that can be used to manage parking. Rather than identifying and constructing parking spaces for each land use in a development, parking can be strategically placed, priced, and managed to limit the amount of parking needed. Other strategies for managing parking include:
  - Share parking: design parking to serve multiple uses at different times of the day (e.g., a restaurant can share parking with an office complex; a school can share parking with a church).
  - Establish parking maximums: place limits on the maximum amount of parking capacity allowed at a site or within an area.
  - Improve walkability: improve pedestrian facilities and plan developments so that visitors can easily walk between multiple destinations.
  - Unbundle parking: instead of bundling the price of parking with building costs, sell or rent parking separately from building space.
  - Increase capacity of parking facilities: design parking facilities to hold the maximum number of vehicles possible by using wasted spaces, angled parking, and appropriately sized spaces.

DEVELOPMENT-BASED STRATEGIES

The design of transportation infrastructure has a profound impact on mode choice for local travel within and adjacent to the site. A complete street with comfortable, attractive sidewalks and bike lanes is much more likely to encourage employees, residents, and visitors to walk or bicycle to nearby destinations. Likewise, a vibrant street front with diverse land uses, interesting windows, and buildings adjacent to the sidewalk make walking a more desirable option.

As the UMED District continues to develop, opportunities to implement complete street and street-scaping strategies can encourage walking and biking. The UMED District should continue to look for strategies to support year-round walking and biking (i.e. underground pathways to connect uses) as well as opportunities to facilitate cross-country skiing. Dense, mixed-use development throughout the area will help encourage non-auto travel and improve the vibrancy and economy of the development. Connectivity in the development is also critical, as non-auto travel is directly affected by distance, and out-of-direction travel can pose a major deterrent. It is important that plans for key connections and street improvements are identified so development can support these changes, rather than reinforce or inhibit them.

- Increasing Connectivity: Connectivity refers to the density of connections in paths and road networks and the directness of the links. A well-connected road or path network has many short links, numerous intersections, and minimal dead ends. Increasing connectivity decreases travel distances and provides greater route choices – which allows more direct travel between destinations.

Full street connections are most desirable, but pedestrian- and bicycle-only connections should be provided where street connections are not feasible.

- Streetscape Improvements: Streetscape refers to urban roadway design and conditions that impact street users. Street-scaping considers all roadway users and activities that occur on a street. It seeks to create streets that accommodate all forms of travel, provide access to nearby destinations, function as linear parks, and improve the livability of the community. Streetscape improvements include a variety of strategies, such as:
  - Creating wider sidewalks that accommodate more business and pedestrian activity.
  - Adding landscaping, particularly between vehicle travel and other modes.
  - Adding bike lanes and pedestrian crossing elements.
  - Increasing lighting on streets and at transit stops.
- Area Pedestrian Improvements: Improving the walkability of an area can encourage travelers to walk between destinations. Walkability is based on a variety of factors, including pedestrian facilities, roadway conditions, connectivity between land uses, and security. There are numerous ways to improve walkability, including:
  - Increase the quantity and quality of sidewalks and crosswalks, including bulb-outs and refuge islands

- Provide pedestrian crossing signals.
- Mix land-uses and create connections between common destinations.
- Reduce vehicle speeds and implement traffic calming strategies.
- Design pedestrian facilities to be accessible to all users.
- Add street lighting to improve security.

- Area Bicycle Improvements: Improving the safety and convenience of biking may increase the use of bicycles as an option for more trips. A variety of strategies can be implemented to improve conditions for bicycling, such as:
  - Increase the quantity and quality of bike lanes and paths.
  - Improve bike parking facilities.
  - Increase bicycle connections between common destinations.
  - Integrate bicycling with transit.
  - Reduce the speed of vehicles through traffic calming

  In addition, a bike sharing program can provide convenient bike rentals for short trips within the UMED District and surrounding area to encourage bicycle use as a potential travel option for more people.

- Transit Improvements: A variety of things can be done to improve transit service and make it a more attractive option for commuters, residents, and other travelers.

For example, service can be increased by adding more routes, increasing frequency, and extending operating hours. Lowering fares, creating more convenient fare payment, or increasing the comfort of transit can encourage transit ridership. Giving transit priority on the road with bus lanes, transit priority traffic signals, or grade separation can significantly improve transit service.

- Investigate the possibility of Valley Mover providing direct peak period bus service to the UMED District from Palmer/Wasilla. Also, investigate the possibility of People Mover providing direct service from Eagle River to the UMED District. This would significantly reduce the existing bus transit travel time by eliminating the need to transfer buses in downtown Anchorage.
- Also discuss park and ride, and UMED shuttle service here [find a parking lot in the valley for commuters to leave their cars and hop in a shared car, van, or shuttle].

PLAN IMPLEMENTATION

Marketing, education, enforcement, and use of incentives and disincentives are key components in the application of the TDM measures that the UMED District pursues. A TMA could be useful in promoting TDM programs and providing the necessary support for a TDM program. It is recommended that the UMED District regularly review progress towards its TDM goals and monitor the success of TDM programs. The following strategieare intended to bolster the effectiveness of the TDM strategies outlined above.

- Adopt clear, quantifiable goals that can be measured for progress: examples include mode split targets for employees, parking occupancy and utilization (auto, bicycle, other), ratios of bike spaces and transit passes to employees, and shuttle service productivity.

- Promote programs: whether through a website, brochures, employer-run sessions, new employee/student orientations, or other marketing strategies, promotion of TDM programs is essential to ensure people are aware of their transportation options.
  - Alternative Transportation Month - Hold an alternative transportation fair to highlight the user benefits and costs of utilizing alternative transportation modes for the day-to-day travel to and from the UMED District. Participates would receive information about public transportation service, bicycle routes, walking, ride-sharing programs.

Provide "friendly" competition between organizations to promote alternative transportation travel for a one month period. Provide gift certificates or other incentives for participants.

- Routinely survey employees/students to determine progress towards desired mode split and other goals: this will help measure progress and assess the effectiveness of TDM strategies. Seeking employees'/students' input IS essential to addressing concerns with TDM programs.

- Establish TMA to monitor the TDM program: a TMA is well-suited to both organizing TDM programs as well as monitoring their success.

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5.2 CASE STUDY: MIXED USE DEVELOPMENT

This section summarizes Strategic Economics' research on mixed-use development in university districts. The analysis touches upon a range of issues that intersect in mixed-use development, such as financing, programming, and collaborative planning. The research results are divided into five sections. The first and last sections introduce and summarize the key findings. The middle three sections focus on case studies in three North American locations.

INTRODUCTION

Strategic Economics conducted three case studies of mixed use projects in campus contexts in order to identify and illustrate potential implementation strategies for the Universities and Medical (UMED) District Plan. This report is intended to help the Municipality of Anchorage, UMED District institutions, residents and other community stakeholders understand the range of approaches that might be used to implement the visions established for the District, which include:

- Mixed-use retail development that would create a concentrated node of activity in one or more strategic locations.

- Development that contributes to quality of life for UMED District residents, students and employees and supports economic activity in the district.

- The consideration of public-private partnerships to enable this type of development, helping organizations to further their individual missions while supporting broader UMED District goals.

This report presents each of the case studies, covering a broad range of topics, including partnership structure, site assembly, design, financing and retail strategy. The report concludes with a summary of key findings and implications for the UMED District.

CASE STUDY SELECTION:

The three case studies presented in this report were selected through a process of initial research and subsequent refinement in collaboration with the consulting team and Municipality of Anchorage staff. The process was focused on identifying projects that were applicable to the UMED District context in at least several of the following aspects:

- Mixed-use, "village" development combining retail and residential uses,

- Revitalization and/or redevelopment of strip commercial centers,

- Public private partnerships,

- Cross institutional collaboration, shared parking facilities and/or district level parking management.

In addition to these features, it was also important that the case study context be comparable to the UMED District in key aspects such as institutional size, city size, development density and/or climate. Because the UMED District is unique in many ways, including its geographic location, historical development patterns, and large areas of open space, it was not realistic to find case studies that were a match for the Anchorage context in every respect; however, even with some differences, the case studies are able to offer important implementation lessons.

Acknowledging that differences in governance, market conditions and development patterns can make some implementation strategies viable in one location but not in another, each case study begins with a project overview and a description of the context in which the project was developed. The case study then goes on to describe project financing, design, and outcomes, concluding with key lessons that are potentially applicable to the UMED District.

	University Square	Uptown Phase I	University Marketplace
Location	Madison, Wisconsin	Cleveland, Ohio	Vancouver, Canada
Project Uses	Retail, Residential, Office	Retail, Residential	Retail, Residential, Office
Year Completed	2008	2012	2001
Financing	Public-Private Partnership	Public-Private Partnership	Private Development
Institutional Campus	University of Wisconsin-Madison	Case Western Reserve University and other University Circle institutions	University of British Columbia
Institutional District Area *UMED District: 1,760 acres*	930 acres	500 acres (University Circle)	1,000 acres
Institutional Daytime Population *UMED District: 30,000*	60,000	50,000 (All University Circle institutions)	64,000
City Population *Anchorage: 300,000*	240,000	390,000	600,000

Figure 57. Summary of Case Studies

Figure 57 summarizes the three case studies selected for this report. The first two case studies involved joint ventures between public and private entities; the final case study is an example of private sector development.

University Square in Madison, Wisconsin, consists of two mid-rise towers with 130,000 sq.ft. of retail space, 350 apartments, a university-run student services center and underground parking. Completed in 2008, the project was a public-private partnership between a private developer and the University of Wisconsin-Madison (UW-Madison). Each component of the project (retail, housing, parking, office space) is owned and managed by a different party. The 3.4 acre development site was assembled from two parcels: an aging strip mall owned by one of the developers and a university-owned surface parking lot. By joining forces, both parties were able to build a more ambitious project than would otherwise have been possible. The project is notable for its scale—it is the largest infill project completed in Madison—and the consensus achieved among the multiple stakeholders, including the City of Madison. In order to energize the perimeter of the building and create a pedestrian friendly environment, the project includes extensive redevelopment of the streetscape, including outdoor seating and strategically located bike parking.

Uptown Phase I in Cleveland, Ohio is a mixed-use project with 56,000 sq.ft. of retail space and 114 apartments. Initiated by Case Western Reserve University (CWRU) and executed by a local developer, the project is part of a broader effort to create a vibrant mixed use district at the heart of University Circle, a major institutional district in Cleveland.

In addition to the strong commitment of the two main partners, Uptown's success also relied on the involvement of other anchor institutions, philanthropic foundations and the City of Cleveland. In particular, creative, nontraditional financing was necessary to put the project together under challenging market conditions. Completed in 2012, the project illustrates the critical role that institutional commitment can play in making a project successful, and the benefits of collaboration among diverse community partners.

University Marketplace is a six-story mixed use project adjacent to the University of British Columbia (UBC) campus in Vancouver, Canada, with 75,000 sq.ft. of retail space, 75,000 sq.ft. of office space, and 108 apartments. The project was built by a private developer without direct institutional involvement. By filling a need for campus amenities, the commercial portion of the project effectively serves as the retail village for the university's staff and students. The project attracts a large share of customer traffic on foot because of its strategic location, proximity to transit and pedestrian-oriented design.

UNIVERSITY SQUARE - MADISON, WI

PROJECT OVERVIEW AND CONTEXT:

Completed in 2008, University Square is the result of a public-private partnership to redevelop an aging strip mall into a high density project combining retail space, rental apartments and university-run student services at the eastern edge of the University of Wisconsin-Madison (UW or UW-Madison) campus.

The UW-Madison campus occupies 930 acres one mile to the west of downtown Madison, a city of 240,000 residents. The campus is bound by Lake Mendota to the north, and urban development on the remaining three sides.

In 2005, during an update to its Campus Master Plan, the university concluded that it could no longer expand its boundaries outward, and must instead direct future growth within its existing footprint.

As part of the 2005 Campus Master Plan, the university decided to focus infill development at the East Campus Gateway (Figure 62).

The plan established the vision for a seven-block pedestrian mall through an area whose existing uses included surface parking lots and several outdated university facilities. Rather than obtaining funds to construct the entire East Campus Mall at once, UW-Madison aimed to build the plan out incrementally by locating campus projects with committed funding—such as housing, athletic and dining facilities—along the corridor. As each project was built, it paid for its share of the East Campus Mall improvements. The East Campus Mall was also able to leverage funding from infrastructure projects associated with the university's need for a north-south utility corridor.

A local real estate developer, Executive Management Inc (EMI), owned one of the only privately-owned parcels along the mall, a single-story 1970s-era shopping center (Figure 66). Seeing the momentum building along the East Campus Mall, EMI wanted to redevelop the site into a higher density mixed-use project, recognizing that population and employment growth in Madison had created more demand for retail space. Because their site was adjacent to a UW-owned parking lot, EMI approached the university about developing the project together. UW recognized that partnering with EMI would enable the university to address several longstanding campus needs, including a consolidated University Health Services center for students and a home for student organizations.

Figure 58. University Square in Madison, Wisconsin

Figure 59. Uptown Phase I in Cleveland, Ohio

Figure 60. University Marketplace in Vancouver, Canada.

The location was ideal in terms of centrality and convenience for students. Eventually, private housing developer Steve Brown Apartments also joined the project.

University Square consists of two mid-rise towers with 130,000 sq.ft. of retail space, 350 private apartments, a university-run student services center and underground parking. To energize the perimeter of the facility, and create a pedestrian friendly environment, the project includes extensive redevelopment of the streetscape, including outdoor seating and strategically located bike parking. The project is notable for its scale—it is the largest infill project completed in Madison—and the consensus achieved among the multiple stakeholders, including the City of Madison.

SITE
The University Square site was assembled from two smaller parcels: an existing shopping center owned by EMI, and an adjacent surface parking lot owned by UW (Figure 64). The total combined area of the University Square site is 3.4 acres.

The partnership was structured to allow EMI and UW-Madison to retain ownership of their respective parcels of land: in order to enable development, both owners entered into a 98-year ground lease with a limited liability company set up exclusively for the project. Ownership of buildings was divided into five condominiums corresponding to the project's components (retail space, retail parking, apartments, residential parking and UW office space).

This arrangement enables separate ownership and maintenance of each partner's portion of the project. In retrospect, the team acknowledged that this ownership structure introduced a high degree of complexity into the project.

FINANCING
UW-Madison provided $57 million for the construction of the UW student services tower, an amount equivalent to one-third of the project's total $175 million cost (Figure 63). Obtaining funding required approval from UW's Board of Regents, the Wisconsin State Building Commission and the State Legislature, requiring the development team to navigate the state's biennial budget process.

Of the $57 million in state funding, $40 million was financed by state-issued bonds, while the remaining $17 million was provided by a $20 per semester increase in student fees over the course of 20 years, approved by students in a 1999 referendum.

The need for institutional and political budget approval significantly influenced the direction of University Square. UW-Madison originally planned to include an 800-bed student dormitory in the project, but the Board of Regents did not approve the $112 million estimated cost. As a result, the development team had to seek a private developer for University Square's residential component.

Project	University Square
Location	Madison, Wisconsin
Project Timeline	Initial Vision: 1998
	Construction: 2006
	Opened: 2008
Site	3.4 acres
Project Uses	Retail, residential and office
Retail Area	130,000 sq.ft.
Key Retail Tenants	Walgreens , Fresh Madison Market
Office Area	250,000 sq.ft.
Residential Units	350 apartments
Parking	440 parking stalls (structured parking)
	612 bike/moped stalls
Development Team	Executive Management, Inc (EMI)
	University of Wisconsin-Madison
	Steve Brown Apartments

Figure 61. University Square Project Summary

Figure 62. University of Wisconsin-Madison Campus

Although the development team did not originally intend to seek any local government contribution to the project, the City of Madison provided a $3 million in tax increment financing (TIF) in 2008 to address a last-minute financing gap. The remainder of the project's financing was obtained by the private developers.

DESIGN

University Square consists of two towers—one containing UW student services and the other containing residential apartments—sharing a base that contains two floors of retail and parking (Figure 65). The project also features a green roof on the third floor, and substantial streetscape improvements along East Campus Mall, such as benches and bike parking. Achieving consensus among the three partners on the design quality and public realm improvements required significant negotiation.

Source	Amount
UW-Madison State-Issued Bonds	$40 million
UW-Madison Student Fees	$17 million
City of Madison TIF Loan	$3 million

Figure 63. University Marketplace Public Financing Sources

For example, while UW facilities are typically built with a 100-year time horizon, private developers, who must realize financial profit within the first few years of a building's operation, typically assume a project life of several decades. Responsibility for the extensive public realm improvements was also a topic of negotiation, because while the East Campus Mall was UW's vision, the retail component also stood to benefit. The 12-story northeast tower, known as Lucky apartments, contains 350 units of rental housing, ranging from one to four bedrooms. Students are the target market for the apartments. The project was designed to appeal to professionals as well.

The 10-story southwest tower contains UW functions, including a Student Activities Center which includes meeting spaces, a study lounge, and office space rented to student organizations; University Health Services, which consolidates both counseling and medical services in one location; and the Offices of the Bursar, Registrar and Student Financial Services.

One of the ways in which the City of Madison encourages high density development in the central area of the city is through its progressive parking policy, which does not impose minimum parking requirements, instead allowing market forces to set parking ratios. Relative to the amount of residential, office and retail space in the project, University Square's 440 parking stalls represent a relatively small amount of parking, a factor which helped to reduce overall construction costs. The lower parking ratios at University Square also reflect the high level of pedestrian, bike and transit usage on the U-W Madison campus and the project's orientation towards students who are much less likely to own a car, particularly when living directly adjacent to the campus.

KEY PLAYERS:

The **University of Wisconsin-Madison** (UW-Madison) is a public research university with over 40,000 students and 18,000 faculty and staff. UW-Madison is a property owner and joint partner in the project.

Executive Management Inc (EMI) is a Madison-based firm that offers a range of real estate development services, including property management, leasing and development. EMI is the property owner of two-thirds of the University Square site and acted as master developer for the project. EMI owns and manages the retail component and associated underground parking.

Steve Brown Apartments (SBA) is a Madison-based residential development firm that was brought into the project to develop private rental housing. SBA owns and manages the apartments.

The **City of Madison** supported the project through the development approval process and provided a $3 million tax-increment financing (TIF) loan.

The **University of Wisconsin Board of Regents** is an 18-member body that governs the UW System. The Board of Regents approves capital budget requests for state consideration, and therefore acted as a gatekeeper for University Square's public funding.

The **Wisconsin State Legislature** reviews UW capital budget requests as part of the state's biennial budget deliberations, and is therefore responsible for approving public funding for all major UW capital projects, including University Square.

No parking was provided for the UW offices uses, as UW faculty and staff have access to an existing UW parking structure across the street.

The lack of new parking for the UW Tower likely also reflects the university's comprehensive transportation demand management program and decision to cap the total number of parking spaces on campus at 13,000 as part of its 2005 Long Range Transportation Plan. It is estimated that 50 percent of the university's 18,000 faculty and staff arrive on campus by carpooling, biking, walking, and taking transit, rather than driving alone.

PROJECT APPROVALS

The development team worked closely with the City of Madison throughout the entitlement process. Although UW-Madison—as a state entity—does not need city-issued building permits, it is required to follow local land use regulations. Furthermore, the privately-developed portions of the project were required to apply for city building permits.

There was widespread agreement that a new, higher intensity project would be a better use of the site than the existing mall, the project was largely met with approval from elected officials and staff at the City of Madison.

However, as a major redevelopment that represented a significant increase in density over the prior use, it was subject to scrutiny through multiple design reviews.

The project was subject to the City of Madison's standards for a Planned Unit Development in the Downtown Design Zone, which enabled density but also established bulk requirements such as front and rear setbacks. The City of Madison was interested in seeing the project succeed and did not introduce additional conditions or constraints in the project entitlement process, other than those that were already in the development standards.

Figure 64. Site Ownership

Figure 65. Site Plan

Figure 66. University Square Site Prior to Redevelopment

OUTCOMES

University Square is perceived as a positive addition to the area, benefiting the university, downtown workers, and the city in general. The project is credited with helping to activate public space through its attention to urban design and streetscape.

By providing restaurant and retail amenities, the project creates synergies with surrounding uses, such as the nearby campus sports arena and art museum, both destinations that attract visitors into the area.

RETAIL PERFORMANCE

Retail tenants in University Square include a mix of local and national businesses, primarily supported by students and employees who travel to the area on foot, and visitors to athletic events. One of the challenges in tenanting the space is that it is not a retail destination, and very few people drive to this location. Because of the dependence on the student population, sales are slow during winter and summer breaks.

Two of the great successes of the retail component are the grocery store and Walgreens anchors. The grocery store was an amenity that the university was eager to secure for its students. It took over a year to attract a tenant into a small, urban-format retail space.

They eventually leased the space to Fresh Madison Market, an independent local chain. The owner has reported that sales are well above projections. The Walgreens provides a convenient "one-stop shop" for students, employees and residents.

Despite the central location, high density and pedestrian-oriented environment, retail on the second floor of the project has struggled. EMI initially created a 20,000 sq.ft. food court on the second floor, but it was forced to close. To address the lack of visibility of second floor retail, the new second-floor tenants are destinations that are not as dependent on passing customer traffic, such as yoga studios and a hair salon.

Figure 67. University Square Project After Redevelopment

Figure 68. UW Student Services Tower at University Square

Figure 69. Pedestrians at University Square

Although EMI controls the retail leasing, UW included covenants that stipulate that EMI cannot rent the space to certain types of retail, such as liquor stores, tattoo stores and credit card companies.

ECONOMIC BENEFITS

In addition to the public realm contributions of the project, the city has acknowledged that the project will have a positive fiscal impact on the city, through increased property tax revenues. Although the university-owned office tower is tax exempt, the residential and retail components are privately owned and remain taxable. However, city staff believe that the project would still have been viewed favorably if it was entirely tax-exempt, given that UW-Madison is considered a major driver of economic growth and employment in the city.

OBSERVATIONS AND LESSONS LEARNED

Creating a land use plan enables stakeholders to prioritize resources and direct future investment towards implementation of strategic goals. The plan for the East Campus Gateway was initially controversial for its ambitious scope, without resources available to fund its implementation. Ultimately, the plan became a framework that enabled the university to prioritize resources and direct capital investments to the East Campus area, steadily achieving incremental build out of the original vision.

Public-private partnerships can enable both parties to build a larger project than would otherwise be possible. In partnering to build University Square, UW-Madison and the private development team were able to align their interests and resources to meet their distinct goals.

The university-owned parking lot was too small for the university to develop, and it did not have the financial resources to buy out the developer. By partnering with the university, the developer had a larger site to work with, which provided more flexibility in site configuration, and a larger project area. However, the partnership and specifics of the ownership structure also contributed to the complexity of the project, which was a challenge to the development process.

Tying a project's financing to institutional and political processes can be challenging for a developer's timeframe. Obtaining budget approval from the Board of Regents and State of Wisconsin subjected University Square to a lengthy and often political decision-making process. In particular, the time frame of the state-level biennial budget approvals was challenging for the project's financial feasibility, as construction costs and interest rates rose prior to 2006. To compensate for a slow start to the project, EMI pursued a compressed construction schedule to keep costs down and enable the project to open in time for the start of the 2008 academic year.

Private developers and institutions have different investment motivations and timeframes. Institutions such as UW-Madison—which are mission-driven—typically plan to hold, operate, and maintain property over a much longer period of time than private developers. While private developers are required to pay off loans within 25 to 35 years, institutions have access to more patient forms of capital which support long-term ownership. As a result, institutions and private developers may have different approaches to building design and the quality of construction, which can present a challenge in public-private partnerships.

Communication and consensus-building among stakeholders are critical to a project's success. Successful public-private partnerships require all parties to be committed to good communication and genuine negotiation. Working through the details of University Square's design, financing and ownership structure required constant communication and negotiation among EMI, Steve Brown Apartments and UW-Madison.

Finding appropriate retail tenants for a pedestrian-oriented, mixed use space can be challenging. Many retailers, particularly national chains, favor spaces with good visibility, high ceilings, high traffic volumes and easy vehicle access. Ground floor retail in mixed use projects does not necessarily conform to all of these preferences, and as a result, it took the retail leasing team some time to find desired tenants for University Square. Retail tenants' success has depended on their visibility, ability to fill an unmet need, and ability to attract customers despite the seasonality of the campus activity. For example, the Walgreens and Fresh Madison Market have been very popular, whereas the second floor food court was unable to attract enough customers

THE UPTOWN - CLEVELAND, OH

PROJECT OVERVIEW AND CONTEXT

University Circle is a 550-acre neighborhood located four miles east of downtown Cleveland. It is home to over 40 educational, medical and cultural organizations, ranging from anchor institutions such as Case Western Reserve University (CWRU), University Hospitals (UH) and the Cleveland Institute of Art (CIA) to smaller nonprofit organizations. An estimated 30,000 workers and 13,000 students come into the neighborhood every day.

Despite its role as a major employment center and academic hub, the dominance of institutions rendered the district an "urban dead zone" that lacked retail and housing options for students, employees and visitors. Surrounding these institutions are low-income residential neighborhoods that have seen little investment in recent decades, with large numbers of vacant and abandoned properties.

To address the need for a "college town" main street where students and staff could shop, eat and gather, CWRU's 2005 Master Plan designated a "University Arts and Retail District" along the edge of campus.

This neighborhood, which later came to be known as Uptown, was envisioned as a mixed use, transit-oriented district that would increase activity adjacent to campus by providing housing, shops and entertainment venues.

To move forward with implementation, the university created a real estate department headed by experienced commercial developers. Critically, CWRU began to work on site assembly early in the process, selecting a location that was within walking distance of CWRU and other major University Circle institutions, and easily accessible via Cleveland's new bus rapid transit (BRT) system, the HealthLine. CWRU first acquired four acres at the southeast corner of Euclid Ave and Mayfield Rd, then negotiated an agreement with University Circle, Inc

(UCI), a nonprofit community service organization, to acquire three acres of its land on the opposite side of the street. (See sidebars on 'Key Players' and 'University Circle Inc' for more information on UCI's mission and role.)

CWRU managed the initial planning of the Uptown District for several years and issued a request for proposals (RFP) to local and national developers in 2006. The project was awarded to MRN, a local firm that was attracted to the potential for Uptown to be a catalytic project in University Circle. Key factors in selecting MRN included their prior success creating walkable mixed use destinations in Cleveland and their willingness to take on complex financing structures.

Originally, Uptown was conceived as one large project with both condominiums and apartments. Eventually, due to the onset of the financial crisis and ensuing recession, the project was divided into three more manageable phases, with only apartments and retail in Phase I.

Around the same time that CWRU began planning the Uptown district, the Cleveland Foundation launched the Greater University Circle Initiative (GUCI) to convene local institutions in a reinvestment strategy for the surrounding neighborhoods. The foundation decided to focus on the Uptown district as one of GUCI's first projects, contributing significant financial resources and engaging other institutions as stakeholders in the process.

Recognizing the potential economic benefits associated with the Uptown, the City of Cleveland was also extremely supportive, providing financing and public infrastructure, in addition to planning and building approvals.

Project	Uptown Phase I
Location	Cleveland, Ohio
Project Timeline	Initial Vision: 2005 Construction: August 2010 Opened: 2012
Site	4.65 Acres
Project Uses	Retail, Residential
Retail Area	56,000 sq.ft.
Key Retail Tenants	Barnes & Noble bookstore Small format grocery store, Constantino's
Residential Units	114 Apartments
Development Team	Case Western Reserve University MRN, Ltd.

Figure 70. Uptown Phase I Project Facts

Figure 71. Ground Floor Retail at Uptown Phase I

KEY PLAYERS:

Case Western Reserve University (CWRU) is a private university with approximately 10,000 students and 6,400 faculty and staff on a 155 acre campus. CWRU initiated the Uptown project, assembled the site, convened key stakeholders, issued the Request for Proposals (RFP) to developers and managed the project with the selected developer. CWRU also holds the master lease for two-thirds of the retail space and thus maintains a financial stake in the project.

University Circle Inc (UCI) is a unique nonprofit organization that started as a land bank for local institutions, but has since evolved to develop its own real estate projects, provide services such as parking and security for member institutions, and advocate for the University Circle district. (See sidebar "University Circle Inc." For more information on UCI's model) UCI owned a portion of the Uptown site and agreed to sell it to the developer for the project.

MRN is a local, family-owned real estate development firm that became the master developer for the Uptown after being awarded the RFP. MRN had prior experience with mixed use development on East Fourth Street in downtown Cleveland and was comfortable with complex financing deals.

The **Cleveland Foundation** is a community foundation that awards grants to local projects that benefit citizens, meet community needs, and test new ideas. Its activities are supported by a $1.9 billion endowment. The foundation was instrumental in convening University Circle institutions as stakeholders in the Uptown project and provided substantial financial support for planning and development.

The **City of Cleveland** was involved in the project in three different ways financing, public infrastructure construction, and project approvals.

Since Uptown Phase I opened in 2012, the University Circle community has begun to enjoy the benefits of new housing, shops, and public spaces, while anchor institutions such as CWRU have increased their competitiveness in attracting students and employees. Building off of Uptown Phase I's success, new real estate projects in the pipeline are expected to bring even more housing, entertainment and retail activity to the neighborhood.

Source	Amount
NMTC Tax Credits: Key Community Development Corp. Enterprise Community Investment Cleveland Development Advisors	$16.25 million
Cleveland Foundation Gund Foundation	$8 million
City of Cleveland, Vacant Properties Initiative Fund	$5 million

Figure 72. Uptown Phase I Public and Philanthropic Financing Sources

FINANCING

Assembling $44 million in financing during an economic recession was a challenging task, made possible by the commitment of numerous community partners and the development team's tolerance for complex, multi-layered deals.

Approximately 40 percent of the project's cost, $17.4 million, was provided by conventional lenders, Key Bank and First Merit Bank. The remainder was provided by non-traditional financing sources, including philanthropic grants and loans with below-market interest rates and flexible terms (Figure 72).

Enterprise Community Investment and Cleveland Development Advisors provided $16.25 million in New Market Tax Credit (NMTC) allocations. The NMTC Program incentivizes investment in distressed or low-income neighborhoods by providing federal tax credits to investors. The Cleveland Foundation and Gund Foundation provided loans and grants totaling $8 million.

The City of Cleveland provided a construction loan totaling $5 million through its Vacant Properties Initiative Fund, which was established to encourage the redevelopment of abandoned, idled or underutilized commercial properties. If the project meets specific job creation goals (280 permanent jobs), 45 percent of the loan amount is forgivable.

SITE

Uptown Phase I was constructed on 4.65 acres on the north and south sides of Euclid Ave at 115th St (Figure 73). The northern half of the site was a vacant lot used as an unpaved parking lot.

The southern side of the site consisted of a surface parking lot in front of an aging strip retail center with numerous vacant spaces. The site is now owned by MRN, who purchased the land at market rate from CWRU and UCI. Uptown Phase II will be constructed just south of Uptown Phase I, on the north side of Euclid Ave.

DESIGN

Uptown Phase I consists of two four-story buildings that face each other across Euclid Ave, with a total of 114 apartments and 56,000 sq.ft. of retail space. The south building contains 70 studios and smaller one-bedrooms, while the north building contains 44 larger one-bedroom and two-bedroom units. Twenty percent of the apartments are affordable to households earning up to 80 percent of the area median income.

The site's proximity to transit and existing CWRU parking facilities enabled the developers to avoid building structured parking, which helped to keep construction costs down. According to a market study, approximately half of retail customers arrive by foot. Those who arrive by car have access to surface parking lots at the rear of the buildings, with additional public parking in an existing CWRU parking garage located immediately to the south. The same garage also provides parking for Uptown residents. For student residents who do not own a car, the HealthLine bus rapid transit line stops immediately outside the Uptown, providing easy access to downtown and other locations along Euclid Ave. The Greater Cleveland Regional Transit Authority (RTA) also recently began construction on a new rapid transit station a few blocks away.

Figure 73. University Circle Context Map

Figure 74. Uptown Phase I

Given that a major goal of the Uptown is to create a livelier urban environment, designers paid close attention to the relationship between the buildings and the street, and aimed to create exciting new public spaces. Ground floor retail space features large floor-to-ceiling windows fronting onto Euclid Ave, which features new trees and other streetscape improvements. On the rear side of the south building, restaurants have outdoor patios that spill onto "Uptown Alley," a new pedestrian-friendly space funded entirely by the City of Cleveland (Figure 75). The city agreed to use $2 million in general obligation funds to convert the existing property into a pedestrian alley. To invite pedestrians into this space, the first floor of the building is "perforated" by walkways that connect from Euclid Ave to Uptown Alley (Figure 76).

Adjacent to the Phase I apartment buildings is a new public plaza made possible by a gift from a CWRU alumna. Known as Toby's Plaza, the space is intended to be a gathering place for spontaneous and planned events, installations and performances (Figure 77).

INSTITUTIONAL PARTNERSHIPS:

Although CWRU initiated the Uptown district and played a major role in Phase I, the overall momentum of the neighborhood's development has been sustained by the participation of multiple institutional partners. These partnerships were formed through consistent efforts to convene University Circle institutions and identify how individual organizational goals aligned with opportunities in the Uptown district.

The Museum of Contemporary Art (MOCA) became an early partner when it agreed to relocate to the Uptown district, effectively becoming an anchor for the project (Figure 73). The museum had been looking to move out of rented space in downtown Cleveland, and moved into a new, custom-designed structure southwest of the Uptown Phase I. The Cleveland Foundation provided $1.6 million in financial assistance to help MOCA in its relocation and expansion. Because MOCA is located adjacent to Toby's Plaza and Uptown Alley, it collaborates with CWRU and Uptown building managers on programming these public spaces.

The Cleveland Institute of Art, a college of art and design, is currently undergoing a $5 million expansion to be completed by late 2014.The CIA has become involved as a major tenant in Phase II of the Uptown, where it plans to lease student housing for 130 students.

The University Hospitals (UH) is a major regional medical center, located immediately southwest of the Uptown district. Although UH did not play a direct role in planning or financing, they were very supportive of the project because of their proximity to the site. The hospital recognized that investment in the Uptown district would have strategic benefits for their employees, patients and visitors, as well as the broader University Circle area.

OUTCOMES

Although the Uptown Phase I has been open for just one year, many of its anticipated benefits have already begun to be realized. The residential apartments have been very popular, and the retail space has been leased to a range of national and local tenants. While retail performance has been uneven, the presence of new restaurants and stores has injected vitality into the neighborhood.

Residential Leasing

The Uptown Phase I residential apartments leased up quickly and are currently at 100% occupancy, with a waiting list that will funnel prospective tenants to the Phase II apartments. The studios and smaller one bedroom units attract students, while the larger one-bedroom and two-bedroom units attract a mix of household types, including professionals who work in University Circle and empty nesters who want to be near cultural amenities.

Because of its central location in proximity to jobs, retail, transit and other amenities, the apartments have been able to achieve the highest per square foot rents in Northeast Ohio, approaching $2 per square foot. Rents range from $860 for a studio to $2260 for two-bedroom units.

Retail Leasing

Uptown's retail strategy focused on restaurants and retailers that would help to create an active, pedestrian-friendly environment. MRN and CWRU have been successful in attracting a range of national and local retail tenants, although occupancy and lease rates are not as strong as the residential component.

UNIVERSITY CIRCLE INC.

University Circle, Inc (UCI) provides an example of how projects and programs with district-wide benefits can be achieved by identifying the shared interests of institutional stakeholders.

UCI was founded in 1957 by civic leaders and philanthropists to administer the University Circle Master Plan – which laid out an orderly plan for institutional growth within the Circle – and serve as a "service organization to all institutions" in the district. Funded by an initial endowment of $7 million from a Cleveland philanthropist, the organization's original mission was to purchase and hold land for institutional expansion within the Circle. UCI's purview quickly expanded to include the provision of district-wide services such as parking, shuttle bus service, public safety, architectural review, and landscaping of common areas. In the 1970's, UCI began working to strengthen the relationship between the Circle's institutions and the surrounding neighborhoods by building housing and providing educational programs for students at local schools. UCI operates as a nonprofit organization.

To reduce the risk for lenders associated with the retail portion of the project, CWRU signed on as the master lessee for two-thirds of the retail space. For certain spaces, rents paid to CWRU are tied to sales thresholds: if sales do not meet specific milestones, CWRU may subsidize a portion of the retail rent paid to MRN. However, CWRU will also receive a portion of returns from Uptown, so it is expected that CWRU's real estate activities will eventually be self-supporting.

Approximately one-third of the CWRU's retail space is leased to the campus bookstore, operated by Barnes and Noble. The bookstore's performance has been negatively impacted by the shift towards online shopping.

CWRU also worked hard to attract Constantino's Market—a 12,500 sq.ft. grocery store—to Uptown, believing that such an amenity would be important for attracting prospective residents (Figure 78). Constantino's Market is an independent local business that had already experienced success in downtown Cleveland with an urban, small-format store emphasizing fresh produce, prepared foods and specialty goods. The grocery store was partially financed by a low-interest loan from UCI, who received a $660,000 grant from the U.S. Department of Health and Human Services' Healthy Food Financing Initiative. While the store is primarily oriented towards students and young professionals, it also attracts residents from the surrounding neighborhoods, who previously were not within walking distance of a grocery store.

A majority of the remaining retail space is leased to fast casual restaurants such as Chipotle, Panera Bread, and several local businesses. The current occupancy rate is 90 percent.

Uptown retailers do quite well during the school year but tend to struggle in the summers when the student population is absent. The fast casual restaurants have been more successful than other retailers at attracting year-round business from University Circle employees.

Individuals involved in creating the Uptown district believe that it is still too early to judge the success of the Phase I retail component, given that it was the first project of its kind in the neighborhood. The hope is that ensuing phases of the project will help to build a critical mass of retail in the neighborhood, enabling it to become a destination that attracts a greater number of visitors.

Achieving Overall Objectives of the Plan
Although the retail component of the project is not yet profitable, it has been important to the overall appeal of the project by creating a node of activity and serving the needs of area students and employees. CWRU administrators credit the Uptown district with helping the university achieve record enrollment for its Fall 2012 freshman class, a group that was also notable for its high academic achievement and diversity compared to previous years.

In terms of catalyzing future development, there are already clear signs that the success of Uptown Phase I has helped to "prove the market" for residential apartments. In recent years, there has been increasing interest from developers, national hotel operators, and other private entities in investing in the Circle.

By providing a market comparable with rents at $2 per square foot, Phase I helps developers to obtain financing from traditional lenders, and reduces the amount of incentives that the city must provide to attract development to the area. According to MRN, the rent threshold to justify new construction in Cleveland is between $2.25-$2.50 per square foot.

Uptown Phase II is already under construction and is more market-driven than the first phase. MRN remains the master developer, but neither the city nor CWRU are involved in financing the project, which includes 43 market-rate apartments and 130 beds of student housing for the Cleveland Institute of Art.

The project will also include a highly anticipated bowling alley that is expected to draw even more people to the district.

OBSERVATIONS AND LESSONS LEARNED

An institution's involvement can be critical to making a project happen in a weak and unproven real estate market. CWRU decided it would need to be actively involved in creating the type of urban environment that its student population desired. The university recognized the importance of this effort to its overall mission, highlighting Uptown's development as part of its 2008-2013 strategic plan. Bringing commercial real estate expertise in-house also helped CWRU to partner well with a developer.

Before MRN was involved, the university took initiative on site assembly and began engaging with other organizations, such as UCI and MOCA. The university also agreed to be the master lessee for part of the retail space. Without CWRU, the Uptown would not have happened.

Identifying the shared goals of multiple stakeholders helps to bring resources to the table. MRN, CWRU, UCI and the Cleveland Foundation were intentional and consistent in their efforts to engage with University Circle stakeholders to build a shared vision for the Uptown district. Their work helped all of the institutions understand how their interests were aligned with the project's goals.

Figure 75. Restaurant Patio Seating on Uptown Alley.

Figure 76. Internal passageway at the Uptown project.

Figure 77. Toby's Plaza adjacent to Uptown Phase I and the new MOCA building

Figure 78. Constantino's Market in Uptown Phase I

Figure 79. Sidewalk Seating at Uptown Phase I

The team also convinced the local government of the Uptown's economic benefits, including construction and permanent jobs, retail sales and tax revenues. Involvement of multiple stakeholders enabled the project to weather many challenges. Although the financial crisis threatened to end the project several times, the project ultimately succeeded in getting financing in the midst of the recession, and was able to strategically leverage other valuable resources, such as public investment in streetscape.

Changing market conditions required flexibility in the project definition. The onset of the housing market crisis required the development team to make several changes to the project. Dividing the project into three phases made it more manageable and reduced associated risk. As financing terms for condominiums became stricter, the project was redesigned with only apartments. The impact of online shopping on brick-and-mortar store sales was a factor in the division of retail space. The campus bookstore was originally intended to be 22,000 square feet, but by the time construction was underway, it was scaled down to 18,300 sq. ft.

Building a successful pedestrian-oriented project depends not only on the project's design, but also on surrounding public infrastructure and proximity to other supporting uses. Although the Uptown is a formerly weak market area, the developers recognized the potential for the site because of its proximity to a major employment center, a large student population and transit. Without these factors, the project would not have been able to attract residents and retail tenants, even with public and philanthropic support.

The Uptown served to connect existing uses and meet unmet demand for retail and housing generated by the surrounding institutions.

There are creative ways for an institution to support new development, beyond providing direct financing for construction of a project. CWRU's willingness to take on the master lease for two-thirds of the retail space was a significant factor in Uptown Phase I's financing. It is unlikely that the grocery store or bookstore would be there without the university's involvement as the master lessee. Similarly in Phase II, the Cleveland Institute of Art is partnering with the developer by leasing student housing, which both fulfills the institution's need and provides the developer with more certainty around occupancy and lease-up.

UNIVERSITY MARKETPLACE – VANCOUVER, CANADA

CONTEXT, VISION AND PROJECT CONCEPT
University Marketplace is a six-story mixed use project adjacent to the University of British Columbia (UBC). It was built by a private developer without direct institutional involvement.

UBC's campus occupies 1,000 acres on the western edge of Vancouver, located five miles west of downtown, and two miles from the nearest commercial neighborhood (Figure 81). Despite a daytime population of over 64,000 students and employees, and 8,000 students in on-campus residences, the UBC campus lacked a critical mass of retail and services for many years, with the exception of the campus bookstore and a few businesses in the Student Union Building.

The area immediately east of the campus consists of a small residential neighborhood and 1,900 acres of forested parkland. This area, known as the University Endowment Lands (UEL), is under the jurisdiction of the BC provincial government.

By the late 1990s, the need for a wider selection of retail amenities near the UBC campus had become apparent. The campus planning and development organization, UBC Properties, had begun formulating a comprehensive long-term plan to build "a complete and vibrant community" by adding more housing and pedestrian-oriented retail to the campus.

At the same time, an opportunity for private development arose on a parcel immediately adjacent to the UBC campus, in the only commercially-zoned area of the University Endowment Lands.

The site was owned by the provincial government, who had decided they wanted to sell the land and had hired consultants to help them determine its highest and best use and apply for the necessary rezoning.

To take advantage of the site's central location, pedestrian traffic and the generally high cost of land in Vancouver, the consultants recommended that the site be redeveloped as a mixed use project. Given its proximity to campus, this site appeared to be an ideal location for meeting the demand for retail and services from students, employees and residents. Because of the strength of Vancouver's residential market, they also recommended the inclusion of residential uses on the upper floors to improve the profitability of the project.

The provincial government sold the land at market value to Trilogy, a private development firm, who partnered with Cressey Development Group on the financing and construction of the project.

The finished project, University Marketplace, has retail and office space on the first two floors, four floors of apartments and underground parking. By filling a void in campus retail amenities, the commercial uses effectively serve as the retail village for the students and employees who are on campus on a daily basis, while also serving daily needs of residents in the adjacent neighborhood. The project attracts a large amount of customer traffic on foot because of its central location and pedestrian-oriented design.

SITE

Located in the UEL's commercial zone, the development site comprises 1.4 acres formerly occupied by a gas station and parking lot, and adjacent to an aging strip shopping center. As noted, the site was owned by the British Columbia provincial government, which decided to sell the land when the lease came up in the late 1990s. By this time, the site was underutilized relative to the value of its location in proximity to major campus destination and an affluent residential neighborhood with high quality public schools. Within one block of the project are fraternity residences, UBC Hospital and other institutional buildings. Other key attractions on the UBC campus include The Chan Center for Performing Arts, a Museum of Anthropology and numerous athletic and aquatic facilities.

University Marketplace	
Location	Vancouver, Canada
Project Timeline	Initial Vision: 1999
	Construction: 2001
	Opened: 2002
Project Type	Apartments over retail and office
Site	1.4 acres
Retail Area	75,000 sq.ft.
Key Retail Tenants	Gold's Gym, Staples, Bank of Montreal
Office Area	75,000 sq.ft.
Residential Units	108 apartments
Development Team	Trilogy Properties
	Cressey Development Corporation

Figure 80. University Marketplace Project Facts

Figure 81. University Marketplace Context Map

KEY PLAYERS:

Trilogy is a private development firm based in Vancouver. Its stated focus is "the right product, the right place, the right time." Trilogy was the master developer and continues to handle retail leasing for the project.

Cressey Development Group is a Vancouver-based real estate developer who partnered with Trilogy.

The **Province of British Columbia** was the original landowner, and set the project in motion by hiring real estate consultants to handle the market research and rezoning of the site prior to sale.

The **University of British Columbia** (UBC) is a public research university with over 47,000 undergraduate and graduate students. Although the university was not directly involved in the project, retail and residential demand at the project site is driven by proximity to the campus.

University Endowment Lands (UEL) refers to an unincorporated area of land adjacent to the UBC campus that is under the jurisdiction of the provincial government. UEL administration is managed by an appointee of the provincial government, with input from a community advisory council comprised of elected representatives from the residential neighborhoods.

COMMUNITY PROCESS

The development team engaged with an advisory committee of representatives from the residential neighborhoods adjacent to the site. This process enabled developers to seek input from the residents and to help the community understand how the scale of the development would fit in with their neighborhood. For example, by taking residents on tours of existing mixed use, compact housing developments in Vancouver, the consultants were able to illustrate different building types that could achieve the desired density for the site. Through the process, the consultants incorporated community feedback on the desired physical form of the building, which ended up being low-rise, as well as the community's concerns about what types of retail should be included and excluded from the project.

Figure 82. University Marketplace

DESIGN

The 108 residential units are housed in two four-story structures above a two-level base. The unit mix is heavily weighted towards one-bedroom units with dens, which account for 68 units. The remaining units are 24 one-bedroom units, 8 two-bedroom units and 8 two-bedroom units with dens. Residential parking is underground.

Retail customers have convenient access to metered street-level surface parking on three sides of the project, supplemented by underground parking. The high level of pedestrian traffic and transit access to the site minimized the need for retail parking.

Figure 83. Apartment Interior at University Marketplace

Retail parking was provided at a ratio of about 1.5 spaces per 1,000 square feet, less than half the typical retail parking ratio of 4 spaces per 1,000 square feet.

The overall design of the project is pedestrian-oriented. To invite circulation, the building is bisected in both directions by airy ground floor passageways that also offer some protection from the elements (Figure 84).

Figure 84. Covered Passageway at University Marketplace

OUTCOMES

Residential Leasing

The residential apartments have been extremely successful in attracting a mix of households, with a vacancy rate of less than 5 percent. Students are estimated to account for 80 percent of the tenants. Because the project is located in an area with excellent public schools, it has also attracted families with school-aged children.

Commercial Leasing

The retail tenants consist primarily of local-serving businesses, particularly quick-serve restaurants and personal services, representing a mix of national and independent retailers. In the early stages of the project, the leasing team focused on acquiring national chains to give lenders confidence regarding project financing. Later on, the leasing team also targeted independent businesses that had already been proven in other locations. The tenants are largely oriented towards food, particularly those offering well-priced, convenient items targeted at university students. As a relatively small, local-serving retail node, it was more difficult to attract retail goods, such as apparel stores, although the project was successful in attracting at least one high-end outdoor clothing store, Helly Hansen. Other tenants include a produce store, a gym, a bank, a cellphone provider, stationery store and a variety of cafes.

Although the ground floor retail has been successful, retail space on the second floor has struggled, because of the lack of visibility and less convenient access. Office space on the second floor has also been challenging to lease because it is a relatively small increment of space, and there is not a strong office market in the area.

OBSERVATIONS AND LESSONS LEARNED

With available land and under the right market conditions, a private commercial development can satisfactorily fulfill a campus need. University Marketplace was developed because it was financially feasible and fulfilled unmet market demand from university students. Although the University was not involved as a stakeholder, the retail effectively functions as part of the campus, with students flowing from university-owned facilities across the street to the University Marketplace and back. However, because the University did not have jurisdiction over the site, the development was not coordinated with other campus projects and plans.

The community engagement process can be used to incorporate input from residents about building form and desired retail businesses. Despite University Marketplace's orientation to the campus staff and student population, nearby residents felt a strong stake in the development of a new mixed use project in their neighborhood. Showing examples of different types of density helped residents to envision what new development might look like and what it could bring to the neighborhood. The process also enabled residents to provide input on the types of retail that they wanted to see in their neighborhood.

Retail centers in campus contexts are likely to be local-serving rather than regional destinations. The University Marketplace businesses that have been most successful are those that primarily serve the daily needs of the campus population and nearby residents. Because of its isolation from other concentrations of retail and a broader customer base, University Marketplace is not a regional destination.

KEY FINDINGS AND IMPLICATIONS FOR THE UMED DISTRICT

This section summarizes the key findings that emerged from the case study and discusses how they may be applicable to the UMED District.

IMPLEMENTATION STRATEGIES

Real estate market conditions are a key factor in determining appropriate implementation strategies. Each of the three case studies represents a different approach related to the strength of the local market. In a weak and unproven real estate market, such as near the CWRU campus in Cleveland, institutional involvement can be critical to making a project happen. However, in strong market conditions, such as near the UBC campus in Vancouver, private developers may step in to fulfill market demand, particularly if developable sites are available. According to the July 2013 UMED District Market Analysis, the local medical office market is very strong, but residential and retail rents are not yet high enough to justify construction of new compact housing or mixed use product types. Institutional involvement may therefore be necessary to enable these types of development in the short-term. Because market conditions are likely to change over time, flexibility to adapt to changing economic conditions will also be important.

Identifying shared goals among district stakeholders is an important first step in fostering collaboration. In some cases, such as the University Square project in Madison, adjacent landowners may discover compatible development goals that form the basis of a joint venture.

In other cases, a consistent effort to convene organizations may be required to discover potential partnerships. In Cleveland, Uptown project champions were intentional in their efforts to convene other University Circle organizations and help them understand how their goals were aligned with the Uptown vision. The UMED District Plan provides an excellent opportunity to engage the district's diverse public and private organizations in a similar dialogue; indeed, facilitating collaboration is a primary goal of the Plan. Establishing a forum or working group that convenes institutional stakeholders on a regular basis is a potential starting point.

There are creative ways for institutions to support new development. The case studies illustrate a range of ways for institutions to support real estate development, beyond providing direct financing for construction. For example, CWRU played a critical role in the planning and site assembly of Uptown Phase I, but it did not finance construction. CWRU also maintains an ongoing role in the project as the master lessee for two-thirds of the retail space, which includes the campus bookstore and other student-oriented businesses. Similarly, there are a variety of ways that UMED District institutions might support new real estate development, ranging from direct financing and construction, to long-term leases for office space, retail space, student/workforce housing or other facilities needs, to active support and planning assistance.

Local governments can enable beneficial new development by setting appropriate development standards and contributing public resources where necessary. All three case study projects benefited from land use regulations that allowed high density, mixed use development.

The developer of University Marketplace in Vancouver was able to rezone a commercial site to accommodate residential uses on the upper floors, a factor which increased the financial feasibility of the project.

The lack of minimum parking requirements in downtown Madison allowed University Square developers to be as aggressive with parking ratios as the market would support. Recognizing the economic and placemaking benefits of University Square and Uptown, both the Cities of Madison and Cleveland provided loans to cover project financing gaps. The City of Cleveland also directed public roadway improvement funds towards a pedestrian alley behind the Uptown apartments. In the UMED District, the Municipality of Anchorage may be positioned to play the role of facilitator and convener for UMED District stakeholders. The Municipality can also help institutions, property owners and other stakeholders understand what the new Title 21 development standards mean for the District. Later on, as specific projects develop, additional opportunities to provide assistance or resources may arise.

A land use plan can provide a framework to help stakeholders prioritize resources and direct future investment. All three projects featured in the case studies were preceded by land use plans that designated activity nodes in strategic locations. The University of Wisconsin-Madison's East Campus Gateway Plan established an ambitious vision for a pedestrian mall supported by infill development on both sides. CWRU's 2005 Campus Master Plan identified a University Arts and Retail District in the area that later became the site of the Uptown project.

The UMED District Plan similarly has the potential to identify activity nodes and help orient landowners and district users towards future development options.

Improving quality of life for students and employees is a compelling motivation for adding retail amenities. The case studies illustrate how new retail and restaurants can effectively serve unmet retail demand (such as for a grocery store) and increase neighborhood vibrancy. Because these amenities contribute to an institution's ability to recruit employees and students, they represent an area in which multiple institutional interests may be aligned. In the UMED District Plan Update process, several institutional stakeholders have expressed an interest in creating a retail village that serves the needs of students, employees, patients and other visitors. The sponsorship of these institutions may enable new retail development to take place before the market will support private development of this type.

KEY CHALLENGES AND FACTORS FOR SUCCESS

Forming partnerships brings more resources to the table— and increases project complexity. As highlighted in the preceding section, collaboration can enable more ambitious projects than would otherwise be possible. Public and private partners contribute complementary types of resources to a project, which can make a project more robust in the face of political, market and financial challenges. However, convening stakeholder meetings, creating the legal structure to manage partnerships, and coordinating multiple layers of financing all add to project complexity, potentially increasing the development timeframe and costs.

Uptown and University Square took eight and ten years to develop respectively, whereas University Marketplace—a relatively simple, market-driven project—was completed in just a few years. UMED District organizations and landowners will have to weigh whether their development goals can best be met individually or in collaboration with other private and public entities.

Communication and consensus-building are critical. Successful partnerships require that all parties be committed to ongoing communication to negotiate potentially divergent goals. For example, whereas institutions typically plan to hold, operate, and maintain property over a long time period, developers are required to pay off loans within 25 to 35 years. As a result, institutions and private developers may have different approaches to building design and the quality of construction. Bringing commercial real estate expertise in-house is one strategy that can help institutions to partner effectively with developers.

Consider synergies with existing uses when selecting a location for pedestrian-oriented mixed use development. All three case study projects benefit from strategic locations in proximity to employment centers, campus populations and transit. Without these factors, the projects would not have been as successful in attracting residents, retail tenants and pedestrian traffic. In the UMED District, different locations have different advantages and disadvantages with regard to visibility, transit accessibility and convenience for various populations (workforce, students, etc).

As noted in the UMED District Market Analysis, retail within the district core could benefit from synergies with the Springhill Suites Hotel and Alaska Airlines Arena.

In an institutional district setting, successful retail is likely to be local-serving rather than regional-serving. All of the projects profiled in this report encountered similar challenges in attracting retail tenants. Including lack of critical mass, the seasonal nature of demand generated by university students, and an increasing shift towards online shopping. In general, the most successful campus-oriented establishments are food-related businesses, convenience goods and personal services. These findings are consistent with the UMED District Market Analysis, which concluded that the UMED district could potentially support a small increment of local-serving retail, but is unlikely to be a viable regional shopping destination.

The community engagement process allows all stakeholders, including District employees, students and local residents, to provide input about building form and desired retail businesses. Although new retail development in the UMED District is likely to be targeted at the student and employee population, nearby residents will likely feel a strong stake in the development of a new mixed use project in their neighborhood. Showing examples of different types of density can help residents envision what new development might look like and what it could bring to the neighborhood. The process also enables residents to provide input on the types of retail and building design that they would like to see in their neighborhood.

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5.3 CASE STUDY: NATURAL RESOURCES

INTRODUCTION

The Plan Update recognizes that the UMED organizations will develop their land holdings to the greatest extent feasible. Ongoing development is necessary to support and expand the health and educational services that the community enjoys and has come to expect from the UMED District. It is important, however, to guide future growth in accordance with natural resources best practices.

The community provided vital input about their view of the natural resources within the UMED District during the early stages of the planning process. From this community input, recommendations have been developed to address their concerns and to engage the community in several ways.

This report will serve to help the Municipality of Anchorage, UMED District organizations, residents, and other community stakeholders understand a range of approaches to implement the following four Goals and the associated Recommendations within the Natural Resource vision element.

- Fund and develop park management plans for the lakes, creeks, and parks within the UMED District.
- Educate and encourage citizen participation in environmental stewardship projects.

- Celebrate the Chester Creek corridor and its forested buffer zone as the primary unifying feature of the UMED District.
- Work to minimize human/animal conflicts and to protect watershed health.

Research examined several different areas of the U.S. to determine best practices that could be applicable in Anchorage. Information from the Anchorage Wetlands Management Plan, newly adopted in July 2014, is included to provide a brief context regarding the wetlands, lakes, and creek within the UMED District.

ANCHORAGE WETLANDS MANAGEMENT PLAN 2014

Surface water is abundant in the Anchorage area with an average flow of 274 million gallons per day discharging from various creek and stream corridors. The man made Campbell, Westchester, and University Lakes also have continuous inflow and outflow.[1]

Surface water is very important to the Municipality of Anchorage, with Eklutna Lake as the primary source of drinking water for most of the Municipality, Ship Creek as a secondary source, and numerous wells supplementing the remainder. Within the UMED District, the lakes and stream provide fish and wildlife habitat as well as opportunities for recreation and aesthetic enjoyment.

Wetlands are part of a vital ecological system. As described in the Anchorage Wetlands Management Plan, wetlands:

- Provide highly productive ecosystems that support an abundance of fish and wildlife.
- Regulate and modulate surface water flows through retention of excess runoff and release of this water over extended dry periods.
- Provide protection from erosion and act to reduce the velocity of flood waters from erosion or waves.
- Purify water through the uptake of nutrients, through settling of particles, and as a sink for toxic substances.
- Provide atmospheric regulation through storage of carbon within peat biomass. When wetlands are drained or cleared, that carbon is released into the atmosphere as carbon dioxide, a green house gas, which may affect global climates.

Potential outreach efforts on the AWMP have the ability to teach others the benefits of wetland management and preservation. The goals and objectives from the AWMP can be partnered with the UMED District plan and used to seek funding for water quality improvement projects along Chester Creek and at University Lake in the UMED District area.

PRIMARY NATURAL RESOURCE CONCERNS
Parks, Trails, and Dogs
Faced with limited Municipal resources, Municipal parks and trails within the UMED District are sparsely managed and maintained. Conflicts between user groups and the lack of owner responsibility for both clean-up and animal control have created ongoing issues. Goals and recommendations within the UMED District Plan are intended to mitigate these conflicts.

Wildlife and Natural Areas
The natural areas within the UMED District contain high-functioning wetland areas that contribute to the wetland functionality of the Chester Creek corridor. This natural area contributes to the well-being of a variety of plants and animals and is valued by those who recreate in the area. There is a hierarchy of wetlands; however, in terms of their importance in contributing to ecological functions.

Less important wetland areas may be developed in the future with reasonable mitigation. The advancement of GIS mapping allows planners and developers to monitor the wetlands within the UMED area.

This Vision Element also addresses the need to minimize the everyday human-wildlife conflicts that may be caused by travel within the District; and the Vision Element seeks to mitigate transportation-related impacts to the natural areas, including streams and wetlands.

CASE STUDIES

The Natural Resources Case Studies considered three topic areas:

- Public Outreach and Education
- Park Management
- Urban Forested areas

LAKE TAHOE: PUBLIC OUTREACH AND EDUCATION[2]

Lake Tahoe was reviewed due to its similarity with Anchorage's construction season, which occurs only between winters.

This requires construction companies to work around the clock to ensure that projects are completed on-time during the limited construction season.

In addition, the tourism component of Lake Tahoe applies to Anchorage. As good environmental stewardship means good business for Lake Tahoe, so it should for Anchorage. Over 1.9 million people visited Alaska in 2012-2013 to enjoy the pristine waters, views, natural amenities, wildlife, and recreational offerings (AEDC 3-Year Outlook Report). Anchorage receives many of these visitors as a destination in of itself and as a gateway to other areas of the state.

In Lake Tahoe, projects face stringent environmental mitigation demands to improve and protect the famed clarity of the lake. The requirements to prevent the flow of dust, dirt, and whatever else clouds the water is emphasized in every plan, project, and public outreach element that comes through the Tahoe Regional Planning Agency (TRPA) for approval, permitting, or informational purposes.

TRPA completes review and approves permitting in the Lake Tahoe Basin through a bi-state compact approved in the 1980s: http://www.trpa.org/bi-state-compact. Multiple counties and two cities are also governed by TRPA's adopted ordinances. Businesses, residents, and local and state governments are all involved in caring for Lake Tahoe. The Lake Tahoe business sector is highly dependent on visitors who rent cabins, hotel rooms, eat, drink and play.

LOCATION	Lake Tahoe, Nevada and California	Long Beach, CA	Seattle, WA
TOPIC	Public Outreach and Education	Water Quality and Dogs	Urban Forested Areas

Figure 85. Locations and topics of case studies

The Lake Tahoe business sector as well as residents and property owners are therefore committed to the many efforts to protect the lake.

TRPA worked with the community over the last 10 years to update its Regional Plan, and ideas from the Regional Plan are being implemented now with community-wide participation and support. In addition, financing comes from the public/private Community Watershed Partnership.

COMMUNITY WATERSHED PARTNERSHIP
Public-private partnerships developed in the Lake Tahoe area over many years. The Regional Plan update, coupled with good science and new construction technologies, has assisted the community in maintaining and improving water quality and the ever important lake clarity. These partnerships will aid the community in meeting the demands of ongoing construction and tourism impacts, while maintaining for residents and businesses one of the most beautiful places to thrive on earth. The Community Watershed Partnership (CWP) intends to develop community-wide plans to promote erosion-resistant landscapes and runoff infiltration retrofits on private parcels in conjunction with public storm water improvements. The CWP program provides an avenue for property owners to obtain technical assistance with site evaluations and conceptual designs to implement on-site best management practices that would help minimize runoff and pollution. The success of the CWP will translate to increased community education, reduced sediment loads, and ultimately a more beautiful Lake Tahoe.

Potential Applicability to the UMED District
In Lake Tahoe, it was critical to form a specific community partnership of public agencies and residential and business property owners to learn and implement new ways to improve the water quality.

In the UMED District, the newly amended Anchorage Wetlands Management Plan (AWMP) and the Natural Resources Vision Element of this plan can inform the community about best practices. The UMED District would benefit from public outreach, primarily through the Community Councils, to educate the public on the AWMP. The Waterways Council, a local environmental advocacy group, can support this effort, and Capital Improvement Plan monies could be a source of funding, especially for improvements at University Lake Park and in the Chester Creek corridor.

WATER QUALITY AND DOGS[3]
Pollution from dogs has a significant impact on water quality. At some beaches it was found that dogs raised the level of bacteria so high that swimmers were warned to stay out of the water.

Traci Watson in a USA Today article, "Dog Waste Poses Threat to Water," details her research, which postulates that science can prove that dog waste is an environmental pollutant. In the mid-1990s, scientists perfected methods for tracking the origins of bacteria in streams and sea water. From Clearwater, FL, to Arlington, VA, and Boise, ID the trail led straight to the dog – and to owners who don't pick up after their pets. Several studies have found that only about 40% of Americans pick up after their dogs.

Wild birds and humans usually head the roster of water polluters, but in some areas, dogs pose a significant threat to environmental health. Additional studies have found that dogs were third or fourth on the list of contributors to bacteria in contaminated waters. This group includes E.coli, a bacterium that can cause disease and fecal coli form bacteria.

- Stevenson Creek in Clearwater, FL.: Residents were worried that a sewage treatment plant contaminated the creek, but when the water was tested, it was found that dog feces that washed from yards to the nearby creek, along with leaky septic tanks, and wild animals were to blame for high bacteria counts.

- Four Mile Run in Arlington and Fairfax counties, VA.: Studies show that dogs add to the contamination in this suburban Washington, D.C. stream. Officials calculate that the 12,000 dogs living in Four Mile Run's watershed leave behind more than 5,000 pounds of "solid waste" every day.

- Boise River in Boise, ID.: The river suffers from high bacteria levels that make it unsuitable for swimming. Testing of streams and drainpipes flowing into the river showed that in urban areas, dogs were a leading contributor to water pollution. In some spots, dogs and cats account for even more of the bacteria than human feces — from dysfunctional septic tanks and leaky sewage pipes — do.

Even where dogs aren't the prime offenders, they are one of the few polluters authorities have control over. At many California beaches, for example, seagulls and other birds are most responsible for high bacteria levels, but federal laws protect birds.

While some people find it humiliating to carry a plastic bag and pick up after their dog, a public education effort on the impact of pollution from dogs can change perceptions.

A survey by the Center for Watershed Protection in 1999 found that of the 41% of respondents who rarely or never clean up after their dogs, 44% would refuse to do so even in the face of fines and neighbors' complaints. Reasons included, "because it eventually goes away," "small dog, small waste," and "just because."[4] The Center for Watershed Protection is a non-profit organization that focuses on responsible land and water management.[5]

In Laguna Beach, Calif., a wealthy beach enclave, the city provides pooper-scoopers at the local dog park, and the city hired poop-scooping service to address the non-participation of locals. The city hired Entre-Manure, poop-scooping service based in nearby Dana Point whose motto is "#1 in the #2 Business." In a six month period, the service has collected 187 pounds of dog waste from the city. "I'm real proud of that fact," says Craig Stern, founder and chief picker-upper. "That's pollution that'll never reach the ocean." Entre-Manure (http://www.entre-manure.com/aboutus.html) is a thriving business that estimates they have disposed of thousands of pounds of dog waste since starting the business in 2002.

Potential Applicability to the UMED District

Two of the primary issues heard during the early stages of the UMED Update planning process was the issue of dog management at University and Goose Lakes and water quality impacts related to dog feces deposited in these parks and water features (UMED Public Comment Log).

Anchorage has an estimated 73,774 dogs that eliminate approximately 0.32 pounds of waste per dog, per day. That adds up to more than 10 tons of waste produced every day. A significant amount of that fecal matter is deposited into parks, common areas, and neighborhoods and is left to dissolve and run off into our local water bodies.

The Anchorage Water Ways Council is an advocacy group that tests water throughout the Anchorage area. One of the Council's goals is to educate pet owners about reducing the impacts to water quality by "scooping poop" and disposing of it properly. Results of water testing at University Lake confirm that dog feces is a source of pollution. Unfortunately, their annual "Scoop the Poop" event, which features University Lake Park as a primary site, does not succeed in changing people's behavior.[6] *See the Anchorage Waterways Council website at: http://anchoragecreeks.org/pages/scoopthepoop_about.php*

Laguna Beach, California may serve as a model for encouraging a private sector solution to the challenge. Fines, providing bags, and annual clean-up days do not seem to effectively mitigate this environmental hazard, but dog license fees could help defray the costs of managing and maintaining the muni's dog parks. For example, the UMED District could run a pilot project funded by a portion of dog license fees to hire a clean-up service at University Lake. This would require enforcement to ensure that dogs entering the park are licensed.

SEATTLE, WASHINGTON: URBAN FORESTS, WATER QUALITY AND LAND DEVELOPMENT, AND URBAN WILDLIFE

Urban Forest Management Plan

In 2004, the city of Seattle and the nonprofit Forterra (then-known as Cascade Land Conservancy) joined together to create the Green Seattle Partnership. This public-private partnership is based around a 20-year strategic plan to create "a healthy, livable city with a sustainable urban forest." The plan identifies 2,500 acres of green space managed by Seattle Parks and Recreation — Seattle has more than 6,000 acres of parkland in total — for restoration by 2025 and will focus specifically on addressing invasive plant issues plaguing the city and planting a sustainable, near-native forest for the future. It's estimated that without management, 70 percent of Seattle's forested land will be ecologically dead in 20 years due to invasive plant species.

Several programs have been developed by a variety of agencies to complement Green Seattle including: Seattle reLeaf, Tree Ambassador Program, Trees for Neighborhoods, Bridging the Gap, Residential Rainwise, and Green Seattle Partnerships.

Seattle City Light

Seattle City Light, the city's publicly owned electricity company, has made environmental stewardship one of their longstanding goals. The public utility adopted its first conservation program, "Kill-a-Watt", back in 1973 and has been working with nonprofit The Nature Conservancy since the early 1980s to protect wildlife habitats.

To date, Seattle City Light has purchased more than 10,000 acres to protect wildlife habitat, especially that of the various salmon and trout species in the Skagit and Tolt watersheds. As Lorraine Loomis with the Swinomish Indian Tribal Community's Fisheries Department related in 2009, "Whether it has been through the purchase of strategic parcels for protection of important habitats, its water management strategies or its funding of research or restoration projects vital to the ongoing protection of anadromous salmonids, City Light has demonstrated that a public utility can provide a reliable source of energy while at the same time conserving and enhancing natural resources."

Other Initiatives
The city of Seattle has created tree protection zones. In addition, when construction projects are underway, the city displays posters showing the monetary value of a tree so that contractors are reminded of the potential of construction to cause damage to trees,

Seattle's Plans for the Future
Seattle's urban forest success lies with the city's cooperative efforts. For decades an interdepartmental team representing various parties concerned with Seattle's trees has been making sure all departments are on the same page and coordinating with each other to accomplish similar goals for urban forestry. There are still inconsistencies that the city hopes to address.

Three different assessments of Seattle's urban forest have been completed over the years, but each study utilized a different methodology. The city is currently working on analyzing the different assessments to provide a more uniform view at Seattle's urban forest initiatives.

Other outstanding issues are finding funding for a robust management and maintenance program and updating the tree ordinance, which has not been updated since 1962.

Potential Applicability to the UMED District
The UMED District is valued for its forested area and wetlands. Much of the wetland and green space found in the central area of the UMED District is planned for development by Alaska Pacific University and University of Alaska Anchorage. The District can therefore benefit from the proactive planning and partnerships modeled in Seattle.

It is important that new development within the District be dense and allowed taller heights, as outlined in Title 21, so as to preserve surrounding open space. In addition, new roadway and trail projects within the District should be landscaped and reforested to reduce erosion and run-off; and planting around the lake embankments and the stream corridor within the District should be improved and maintained.

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6. Personal communication with council staff.

5.4 EXAMPLE: POSITIVE TOWN GOWN RELATIONSHIPS

The Examples below focuses on how to foster positive relationships between organizations and the residential communities they are situated in. The subject is examined through four topics: empowering neighbors to communicate effectively, city planning and policy tools, organizational goodwill, and the economic benefits of positive town-gown relationships. Within each topic, related issues are discussed and resources for further research are provided.

The sources in this section are not meant to serve as absolute best practices—this would require rigorous peer reviewed analysis. Rather, this section is meant to highlight key issues and discussion points in town-gown relationships and provide guidance for further in-depth research.

EMPOWERING NEIGHBORS TO COMMUNICATE EFFECTIVELY WITH ORGANIZATIONS

COMMUNITY ORGANIZATIONS

Successful town-gown relationships require effective communication between the community, the local government, and the organizations.

Residents can effectively voice their concerns through community organizing as illustrated by the Ainslie Wood/Westdale Community Association of Resident Homeowners Inc (AWWCA). The AWWCA was founded as a volunteer nonprofit organization in 1998 and acts as a forum for residents to communicate collectively with the City of Hamilton and McMaster University in Ontario, Canada.

Resources for Community Organizing around Town-Gown Relations

- Ainslie Wood/Westdale Community Association of Resident Homeowners Inc., http://awwca.ca/.

- A Guide to Reciprocal Community-Campus Partnerships, Community-Wealth.org, http://community-wealth.org/content/guide-reciprocal-community-campus-partnerships.

- UC/Community Interactions and Collaborations, A Study of Peer Institutions: Main Report, http://community-wealth.org/content/uccommunity-interactions-and-collaborations-study-peer-institutions-main-report.

CITY PLANNING AND POLICY TOOLS FOR COMMUNITY-ORGANIZATION INTERACTIONS

REGULATORY AND NON-REGULATORY PLANNING

Jurisdictions have regulatory and non-regulatory tools to guide development on organizational lands. Regulatory tools include land use and design review processes directly control organizational development. Non-regulatory controls, such as Memorandums of Understanding, define the roles and obligations of each party but do not have any legal implications. Cities such as Cleveland, Ohio, Portland, Oregon, and Tucson, Arizona, have each used different combinations of regulatory and non-regulatory planning tools to manage the growth of local universities. In Mansfield, Connecticut, a Town Council was formed to address concerns regarding quality of life issues that arise during spring break.

Resources on Regulatory and Non-Regulatory Planning Tools

- Special Committee on Community Quality of Life Committee Report, Connecticut, http://www.mansfieldct.gov/filestorage/1904/4724/200504_cocql_report.pdf.

- Town–Gown Collaboration in Land Use and Development, http://www.lincolninst.edu/pubs/1575_Town-Gown-Collaboration-in-Land-Use-and-Development.

- "Mechanisms for Cities to Manage Institutionally Led Real Estate Development." Lincoln Institute of Land Policy. April 2007. Web. 8 April 2014. http://www.lincolninst.edu/pubs/1234_Mechanisms-for-Cities-to-Manage-Institutionally-Led-Real-Estate-Development.

GOVERNMENT-LED STAKEHOLDER ENGAGEMENT

Government can play a key role in community organizing, and interfacing with organizations. When the University of Wisconsin-Milwaukee and the City of Milwaukee planned for developing the university and the surrounding neighborhood, the planning process engaged residents to discuss priorities, strategies, and key issues. Regarding organizational relations, the Mayor's Office in the City of Boston has a liaison dedicated to communicating with the city's institutions of higher education.

Resources on Government-Led Community Organizing

- A Strategy and Vision for the UWM Neighborhood, http://city.milwaukee.gov/ImageLibrary/Groups/cityDCD/planning/plans/UWM/UWMFinal.pdf.

- Town–Gown Collaboration in Land Use and Development, http://www.lincolninst.edu/pubs/1575_Town-Gown-Collaboration-in-Land-Use-and-Development.

ORGANIZATION AND RESIDENT JOINT EVENTS: FARMERS' MARKETS

Jurisdictions can facilitate organizational and residential relations through events that draw both communities. For example, a regular farmers' market is held on the parking lot of Kapiolani Community College in Hawaii. The event is sponsored by the Hawaii Farm Bureau, the Department of Agriculture, the Hawai'i Tourism Authority, and the City and County of Honolulu. Alternatively, the University Community Farmers Market at the University of Buffalo is a joint effort between the University of Buffalo, surrounding neighborhoods, and local organizations. These examples represent outdoor farmer's markets, however it is possible to also found a flexible space to hold indoor markets. One example is the Winter Farmers Market held at Vermont College Gym.

Resources on Developing Farmers' Markets

- KCC | Hawaii Farm Bureau Federation, http://hfbf.org/markets/markets/kcc/.

- University Heights Collaborative - Buffalo, New York, http://www.ourheights.org/farmersmarket/.

- Welcome to the Year-Round Capital City Farmers Market, http://www.montpelierfarmersmarket.com/.

- Starting a Farmers' Market, http://citeseerx.ist.psu.edu/viewdoc/download?rep=rep1&type=pdf&doi=10.1.1.177.6842.

- Making Farmers' Markets a Central Part in Food Systems Planning: A Case Study of Urbana, Illinois, https://www.planning.org/resources/ontheradar/food/pdf/PWDfarmersmarkets.pdf.

- Establishing and Operating a Community Farmers' Market,. http://www2.ca.uky.edu/agc/pubs/aec/aec77/aec77.pdf

- *See Fresh Food Access Example for information on indoor farmers' markets.*

RESIDENT AND ORGANIZATION JOINT SERVICES: DAY CARE CENTERS

Governments can also foster positive organization and resident relations by supporting services used by both parties. In Farmingdale, the New York State Senate funded the establishment of the Farmingdale State Children's Center. One justification for the project was that an on-campus day care will decrease the absentee-rate of parents who have children.

Resources on the Farmingdale Children's Center

Farmingdale State College Children's Center Groundbreaking, http://www.antonnews.com/farmingdaleobserver/news/25582-farmingdale-state-college-childrens-center-groundbreaking.html.

ORGANIZATIONAL GOODWILL AND COMMITMENT TO NEIGHBORS

COMMUNITY ENGAGEMENT OFFICES

Organizations employ a number of tools to dispel the notion of the "ivory tower". Many organizations create dedicated offices to community relations. Pennsylvania State University's Office of Community Relations runs programs to foster positive relationships with neighbors, such as the LION (Living in One Neighborhood) Walk. Similarly, the University of Virginia in Charlottesville holds an annual event wherein employees volunteer on public projects and donate to community-based charities.

Resources on Organizational Community Engagement

- Town-Gown Relations Explored at Community Meeting, http://www.news.cornell.edu/stories/2013/10/town-gown-relations-explored-community-meeting.

ACADEMIC ENGAGEMENT WITH THE COMMUNITY AND LOCAL ENVIRONMENT

The U.S. Department of Housing and Urban Development has developed categories to describe various ways organizations integrate academic goals and community engagement. Categories include service learning, student voluteerism, and applied research. A good example in the UMED District itself is the Center for Community Engagement and Learning (CCEL) at the University of Alaska in Anchorage. CCEL aims to connect academic programs with community needs.

For example, CCEL provides funding to professors whose academic work is locally bound, and has an online forum for students to find work in community-based research.

Similarly, faculty at the University of California in Los Angeles advise local government officials on housing issues, land reclamation, economic development and other planning issues.

Resources on Academic Engagement with the Local Community and Environment

- Center for Community Engagement & Learning (CCEL), http://www.uaa.alaska.edu/engage/.

- Community-Higher Education Partnerships Resources, http://www.pdx.edu/sites/www.pdx.edu.cae/files/LIT_REVIEW.pdf.

- Facilitators of Change OUP's Connections to Resources Continue to Transform and Empower Communities, http://www.huduser.org/publications/pdf/facilitators_of_change.pdf.

- Democracy, Civic Participation, and the University: A Comparative Study of Civic Engagement on Five Campuses, http://nvs.sagepub.com/content/33/1/74.abstract.

- Town and Gown in America: Some Historical and Institutional Issues of the Engaged University, http://www.ncbi.nlm.nih.gov/pubmed/14742021.

- Bridging 'Town & Gown' Through Innovation University-Community Partnerships, http://www.innovation.cc/volumes-issues/martin-u-partner4final.pdf.

STEWARDSHIP: PUBLIC HEALTH & WELLNESS

Medical organizations benefit the community they are situated in by providing easy access to essential medical care. Some organizations also provide special services to their community. For example the medical organizations at the University of Southern California provide community programs such as Fit Families, the Oral Health Center, and Community Health Fairs. They also operate a Mobile Dental Clinic which provides free dental care to those in need. An example from the UMED District itself is the Learning Institute at Providence Alaska Medical Center. The Learning Institute hosts community events that include talks on health related issues, courses on parenting, support groups, and clinical education.
Another example from the UMED District is Alaska Pacific University's opening of recreational facilities to the community. The public can purchase memberships or punch-cards that permit entry to the university's swimming pool and gym. The university also has a program for renting outdoor gear -such as canoes, bicycles, skis, and camping gear—to the public.

Resources on Public Health in the Local Community

- Health and Safety, https://communities.usc.edu/health-and-safety/.

- An Extraordinary Partnership Between Arizona State University and the City of Phoenix, file:///C:/Users/aranoff/Downloads/ASUandPhoenix_partnership.pdf.

- Providence Alaska Learning Institute, http://alaska.providence.org/media/education/Pages/default.aspx.

Also see Resources on Academic Engagement with the Local Community and Environment

STEWARDSHIP: SUSTAINABILITY

In addition to public health, universities have taken upon themselves responsibility for the surrounding natural environment. Our World web magazine compiled a list of thirteen sustainability projects led by universities. One example includes the Community Sustainability Partnership in Grand Rapids, Michigan. CSP is a partnership between three universities, the City of Grand Rapids, and Grand Rapids Public School and their sustainability work focuses on the environment, economic development, and social equity.

Resources on Sustainability

- Grand Rapids Learning and Living the Triple Bottom Line. Community Sustainability Partnership, http://www.grpartners.org/about.

- Universities Co-Creating Urban Sustainability, http://ourworld.unu.edu/en/universities-co-creating-urban-sustainability.

STEWARDSHIP: EDUCATION

Universities have also engaged in raising the quality of primary and secondary education. In Arizona, the Phoenix Union High School District has collaborated with the School of Letters and Sciences to provide students with a hands on study of the sciences.

Resources on Education in the Local Community

- An Extraordinary Partnership between Arizona State University and the City of Phoenix, file:///C:/Users/aranoff/Downloads/ASUandPhoenix_partnership.pdf. Integration through Urban Design

URBAN DESIGN AND URBAN UNIVERSITIES

Universities can achieve integration through urban design. Syracuse University, for example, has led the design for 1.5 mile corridor between the downtown and the university. Landscaping, bike baths, lighting, public art, and wayfinding have been integrating into the design.

Resources in Urban Design and Urban Universities

- Making Cities Livable Through Place Marketing, http://webapps.icma.org/pm/9006/public/pmplus1.cfm?author=Janet%20Cherrington&title=Making%20Cities%20Livable%20Through%20Place%20Marketing.

- Town–Gown Collaboration in Land Use and Development, http://www.lincolninst.edu/pubs/1575_Town-Gown-Collaboration-in-Land-Use-and-Development.

PAYMENTS IN-LIEU OF TAXES (PILOT)

Universities represent a loss in tax revenue for the jurisdictions they are located in. To offset these losses, some universities volunteer payments in lieu of taxes. In Providence, Rhode Island, organizations make voluntary payments in the event of certain factors such as endowments and the purchase of property. Recognizing the value of hosting universities, the states of Connecticut and Rhode Island reimburse cities a certain percentage of the taxes lost by nonprofit organizations.

Resources on PILOT

- College to Provide Funding to Town of Middlebury for $9 Million Bridge, http://www.middlebury.edu/newsroom/archive/2007/node/111794.

- Town–Gown Collaboration in Land Use and Development, http://www.lincolninst.edu/pubs/1575_Town-Gown-Collaboration-in-Land-Use-and-Development.

- Town-Gown: A New Meaning for a New Economy." Campus Contact, http://www.compact.org/resources/future-of-campus-engagement/town-gown-a-new-meaning-for-a-new-economy/4261/.

ECONOMIC BENEFITS OF ORGANIZATIONAL-RESIDENTIAL DISTRICTS

EMPLOYMENT AND THE MULTIPLIER EFFECT

Organizations provide employment and can anchor economies, serving as a center around which goods and services development. A 1999 study of the twenty largest cities in the United States found that educational and medical organizations accounted for 50% of the jobs in four of those cities. Similarly, a more current study by the University of California at San Diego found that the university creates "$2.275 billion in direct and indirect spending, 20,790 direct and indirect jobs, and $1.228 billion in direct and indirect personal income." Assessing the complete multiplier effect is complicated, however, with effects varying by organization type, size, and location: public v. private, single campus v. statewide system, city location v. small town.

Resources on the Economic Benefits of Universities

- Town–Gown Collaboration in Land Use and Development, http://www.lincolninst.edu/pubs/1575_Town-Gown-Collaboration-in-Land-Use-and-Development.

POSITIVE TOWN GOWN RELATIONSHIPS ENDNOTES

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2. Clouette, Bruce, Alison Whitham, and Alan Hawkins. "Special Committee on Community Quality of Life Committee Report." Town of Mansfield, Connecticut. April 2005. http://www.mansfieldct.gov/filestorage/1904/4724/200504_cocql_report.pdf.

3. City of Milwaukee. "A strategy and vision for the UWM neighborhood." City of Milwaukee. June 2003. http://city.milwaukee.gov/ImageLibrary/Groups/cityDCD/planning/plans/UWM/UWMFinal.pdf.

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5. "KCC | Hawaii Farm Bureau Federation." Hawaii Farm Bureau. n.d. http://hfbf.org/markets/markets/kcc/.

6. "University Heights Collaborative - Buffalo, New York." n.d. http://www.ourheights.org/farmersmarket/.

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9. Ezzo, Mark. "Town-Gown Relations Explored at Community Meeting." Cornell University. October 22, 2013. http://www.news.cornell.edu/stories/2013/10/town-gown-relations-explored-community-meeting.

10. Martin, Lawrence L., Hayden Smith, and Wende Phillips. 2005. "Bridging 'Town & Gown' Through Innovation University-Community Partnerships." The Innovation Journal: The Public Sector Innovation Journal 10 (2). http://www.innovation.cc/volumes-issues/martin-u-partner4final.pdf.

11. Yarime, Masaru, and Gregory Trencher. 2012. "Universities Co-Creating Urban Sustainability." Our World. May 23, 2012. http://ourworld.unu.edu/en/universities-co-creating-urban-sustainability.

12. "About." Grand Rapids Learning and Living the Triple Bottom Line. Community Sustainability Partnership. n.d. http://www.grpartners.org/about.

13. "An Extraordinary Partnership between Arizona State University and the City of Phoenix." Arizona State University. n.d. file:///C:/Users/aranoff/Downloads/ASUandPhoenix_partnership.pdf.

14. Campus Compact. "Town-Gown: A New Meaning for a New Economy." Campus Contact. n.d. http://www.compact.org/resources/future-of-campus-engagement/town-gown-a-new-meaning-for-a-new-economy/4261/.

5.5 EXAMPLE: NIGHT LIGHTING

Light pollution hinders astronomy, disturbs ecosystems, and interferes with human biological processes. The International Dark Sky Association works to prevent light pollution, and as part of their effort, they provide policy guidelines to governments. For example, they provide a Model Lighting Ordinance which covers lighting zones, requirements for outdoor lighting, and enforcement. Other resources provided by IDA include model legislation for outdoor lighting, guidelines for urban neighborhoods, a directory of other lighting ordinances, and a collection of relevant reports and studies.

Resources on Night Lighting/Model Lighting Ordinances

International Dark-Sky Association-Illuminating Engineering Society, Joint. "Model Lighting Ordinance (MLO)." International Dark-Sky Association, June 2011. Web. 23 April. 2014. http://www.darksky.org/assets/documents/MLO/MLO_FINAL_June2011.pdf.

International Dark-Sky Association. "State Model Outdoor Lighting Legislation." International Dark-Sky Association, December 2012. Web. 23 April. 2014. http://www.darksky.org/assets/documents/Outdoor_Lighting/State_Model_Outdoor_Lighting_Legislation_rev_121212a.pdf.

International Dark-Sky Association. "Simple Guidelines for Small Communities, Urban Neighborhoods, and Subdivisions." International Dark-Sky Association, n.d. Web. 23 April. 2014. http://www.darksky.org/lighting-codes/simple-guidelines-to-lighting-regulations.

International Dark-Sky Association. "Other Ordinances: Directory of Lighting Ordinances." International Dark-Sky Association, n.d. Web. 23 April. 2014. http://www.darksky.org/lighting-codes/list-of-lighting-ordinances.

International Dark-Sky Association. "Sample Ordinances and Warranting." International Dark-Sky Association, n.d. Web. 23 April. 2014. http://www.darksky.org/lighting-codes/sample-ordinances-warranting

5.6 EXAMPLE: FRESH FOOD ACCESS

Access to fresh produce and groceries is an unmet need in the UMED District, with residents and workers in the center of the District being over two miles from the nearest supermarket (*see chapter on Commercial, Housing & Market Conditions in the Supporting Documents*). A recent UAA initiative to sell fresh produce and baked goods to students at a twice-weekly farmers market has proven successful, further indicating demand for fresh produce. As the UMED organizations expand and more housing is added, demand will only increase. The following examples illustrate how to provide temporary fresh food while more expensive and long-term brick-and-mortar undertakings are considered.

INDOOR FARMERS MARKETS

Examples: Town-Gown Relationships provides examples for various farmers markets coordinated with organizations. Another model is large indoor markets that have various vendors. One popular market is the Newbo City Market, in Cedar Rapids, Iowa. The Newbo City Market is situated inside a formerly industrial building that was abandoned following a major flood that damaged the property in 2008. The building was refurbished by local citizens under support from the city and state.

It is located on a block that includes performance spaces, restaurants, shops, and artist studios, much like Granville Island in Vancouver, Canada. It operates year round, with various vendors selling coffee, canned goods, meats, and fresh pasta during the winter months, and hosts holiday fairs, musical performances, children's play events, or cooking classes on the weekends. Similar examples of indoor markets with individual vendors are Reading Market in Philadelphia, Pennsylvania and Pike Place Market in Seattle, Washington.

Resources on Indoor Markets

- "About the Market." Newbo City Market, Cedar Rapids, Iowa. n.d., http://newbocitymarket.com/about/.

- Granville Island, Vancouver, B.C., Canada. n.d., http://granvilleisland.com/.

- "Welcome to Philadelphia's Reading Terminal Market, Philadelphia, Pennsylvania." Reading Terminal Market. n.d., http://www.readingterminalmarket.org/.

- "Public Market Center Pike Place Market." Pike Place Market, Seattle, Washington. n.d., http://www.pikeplacemarket.org/.

"A FARM MARKET ON WHEELS"

It costs between $50,000 and $100,000 to purchase and outfit a mobile food business, which is only a fraction of the costs for acquiring and equipping a brick-and-mortar grocery store (Iams 2010). This model provides good interim access to fresh foods while the UMED District plans for growth. Not only are mobile solutions more economical, but they enable suppliers to be responsive to demand at different times and locations. Mobile food businesses are commonly known as "food trucks" and are generally thought to cater one type of prepared food. However, the "market on wheels" concept is gaining popularity and offers a range of fresh produce in lieu of cooked meals. In addition, outdoor food facilities create new public spaces where none existed before and can accentuate already lively hubs.

With only ten percent of food-related businesses succeeding, mobile food vendors must have a solid business plan and savvy marketing skills (Iams 2010). Challenges include the reliance on weather and limited storage.
In addition, these businesses can have negative environmental impacts as such as noise, trash, parking, and pedestrian circulation issues. Municipalities can address part of these challenges by updating the regulatory process to apply to this revived form of commerce in the public realm.

In response to the need for fresh produce and groceries in the UMED District, a mobile grocer, like The Green Grocer's Veggie Van in Columbus, Ohio can serve as a model. The Green Grocer focuses on food access in low-income communities, but the concept is relevant to the UMED District.

Another example is the NYC Green Carts which sell only fresh produce and focus on areas of New York City that have limited access to these goods.

Resources on Mobile Food Vending

- Arroyo, Rod and Jill Bahm."Food Truck Feeding Frenzy: Making Sense of Mobile Food Vending." ClearZoning. 16 April 2014. http://www.clearzoning.com/2014/food-truck-feeding-frenzy-making-sense-of-mobile-food-vending-zoning/.

- Arroyo, Rod and Jill Bahm. "Food Truck Feeding Frenzy: Making Sense of Mobile Food Vending." Zoning Practice American Planning Association. 30.9 (2013): 1-8.

- Iams, Alex. "Food Without Walls: The Planning and Economic Development Benefits of Outdoor Food." News & Views American Planning Association Fall 2010: 8-10. https://www.planning.org/resources/ontheradar/food/pdf/EDDfoodwithoutwalls.pdf.

- "Who We Are." The Green Grocer, n.d., http://thegreenergrocer.com/who-we-are/.

- "NYC Green Carts." The New York City Department of Health and Mental Hygiene. n.d., http://www.nyc.gov/html/doh/html/living/greencarts.shtml.

5.7 COGENERATION 2013 EXECUTIVE SUMMARY

EXECUTIVE SUMMARY

This report is an update to the 2009 UAA/ML&P Combined Heat and Power (CHP) Study which is a part of the overall UMED District Plan Update. The project is a stakeholder desired plan funded by the State of Alaska through a grant, and administered by the Municipality of Anchorage. The original CHP study envisioned a 10 megawatt (mW) power generation station using natural gas fired turbines that would make both heat and power. The heat was to be used by Providence Alaska Medical Center (PAMC) and the University of Alaska Anchorage (UAA) for their facilities. The plant, to be located on UAA property, was going to connect the PAMC and UAA with a series of buried enclosed pipes and pumps (utilidors) that would distribute the waste heat (hot glycol or steam) to the appropriate facilities. The cost of the utilidors alone was almost half of the total capital cost of the project, which made the project unfeasible after all of the overhead and operational costs were included.

CHANGES IN TECHNOLOGY:

In the last few years, micro turbines have entered the picture. "Micro turbine" is the terminology generally used for small, high speed gas turbines in the size range of 15 kW to 300 kW. Since the 2009 study, micro turbine technology has made it now possible to locate a small micro turbine (or several micro turbines to match loads) in many of the buildings within the UMED district where there is a significant demand for both heat and power. This arrangement is called "distributed cogeneration."

These micro turbines are referred to in this report as combined heat and power (CHP) units, since they make both heat and power simultaneously for use within the building where they are located. With the use of micro turbines in buildings, the original centralized project capital cost could be virtually cut in half because utilidors are no longer needed to distribute heat to the entire district, and no administrative interagency overhead would be required since there would be no need for a central plant. The buildings would still be connected to the Anchorage Municipal Light and Power (ML&P) grid for most of their power. It is noted that CHP units can also be manufactured using natural gas fired reciprocating engines as their power source - instead of high speed turbines, but the noise, maintenance, operating costs and emissions are all higher.

For this reason the reciprocating engine technology was not given further consideration in this study.

STUDY PROCESS:

Interviews were conducted with representatives from each of the UMED stakeholders to determine their current needs, desires and plans, and to see if they were interested in installing a proof of concept (POC) CHP unit in one or more of their buildings. All stakeholders would consider such a project. The POC CHP units could range in size from 30kW to 1,000 kW, depending on the thermal load to be served.

COST ANALYSIS:

A cost analysis was performed to determine the potential payback for two generic installations, one producing 65 kW (C-65) and one producing 200 kW (C-200). If a C-200 unit were installed in the ML&P service area but connected to the customer's load side of the meter (contrary to ML&P's tariff requirements but in compliance with the CEA interconnection guidelines – more on this in section I), the payback period would be less than five years, and the 10-year Net Present Value (NPV) would be $339,481 dollars using existing tariff rates. See cumulative cash flow graph in Figure 1.

If the same C-200 unit were installed using the ML&P restrictions which require the customer to first sell all power generated back to ML&P for half of what they then pay to buy it back, the payback period would be infinity, and a 10 year NPV would be a loss of $870,752, making it financially infeasible. See the cumulative cash flow for this scenario in Figure 2.

Evaluation of smaller, less expensive 65 kW CHP unit reveals a similar result. If the stakeholder installs a C-65 and connects it directly to the grid to sell the power back to ML&P, rather than on the load side of their meter, they lose $330,697 over 10 years, with a payback period of infinity. However, if they are allowed to connect a 65 kW CHP to the load side of the meter, (using the CEA guidelines) thus reducing demand and power costs, they have a 10 year NPV of $28,870, with a 6.82 year payback. These paybacks were all prepared using conservative installation and maintenance cost estimates.

TARIFF RESTRICTIONS:

Since the ML&P interconnection requirements prohibit a customer from installing a CHP unit on load side of their electrical meter, they cannot reduce their demand charges or the overall amount of power they purchase from ML&P. Chugach Electric Association (CEA) which serves customers across Tudor Road, which forms the south boundary of the UMED district, does not have this requirement, so a CEA customer could install a CHP unit and expect to see excellent payback periods through demand charge, power use, and heating cost reductions. Whereas an ML&P customer will never realize a break even return on their investment. Therefore CHP units installed in the ML&P service area (north of Tudor Road) are financially infeasible under any circumstance.

Larger stakeholders in the UMED district pay approximately one million dollars ($1,000,000) each, annually, for demand charges alone. ML&P defines demand charges in their tariff as follows: "Demand charges are determined by using the maximum average rate of energy use for any 15-minute interval. The billing demand shall be greater of the following: the recorded maximum demand for the month, or 80 percent of the maximum demand recorded during the preceding 11 months, or the customer demand, under a special contract for a customer with on-site generation."

The UMED users are very interested in finding ways to redirect the cash used to pay high demand costs toward enhancement of their core mission, which is to provide increased patient care and better education services. These stakeholders employ a large number of Alaskans. As an example, PAMC is the #2 employer in the State of Alaska.

This report describes the characteristics of CHP units in more detail, payback periods, tariff requirements, interconnection requirements, and interview results.

RECOMMENDATIONS:

This report recommends that relief be sought from ML&P to allow customers to connect their CHP units on the load side of their electrical meter in order to reduce their annual power and demand payments to ML&P. This concept was discussed and rejected out of hand during a meeting with ML&P on August 27, 2013. If the request for relief is denied after a stakeholder application, relief could be sought through a Public Utilities Regulatory Poling Act (PURPA) case presented to the Regulatory Commission of Alaska (RCA).

It may also be addressed through executive action by the Mayor and the Anchorage Assembly.

If relief is obtained from ML&P's interconnection restrictions, this report further recommends that POC CHP installations be made and closely monitored, in select facilities on the UMED campus.

If these interconnection requirements cannot be changed, there is only one option left for distributed cogeneration. Stakeholders can completely disconnect selected facilities or parts of facilities from ML&P and generate all of their own power, including emergency power. This is possible but not desirable for several of the larger stakeholders who already have on-site back-up power generation. This scenario has another down-side in that a complete disconnection of these larger facilities from the ML&P grid would preclude emergency power back-feed to the utility grid (or the other way around) in the event of an earthquake, major fire, or other catastrophic event.

Important note: The power and demand costs in Anchorage are not going down. At present there is a proposed tariff change by ML&P before the RCA (Issued 9-13-2013) that seeks approval of a 24.3% across-the-board interim and refundable rate increase to the currently effective energy and demand charges, effective for billings on or after October 24, 2013. The 24.32% increase is the first phase of a proposed 31.52% across-the-board rate increase to current demand and energy charges, over a two-year period. This information is in RCA Public Notice TA332-121 ML&P.

5.8 SUPPORTING DOCUMENTS SUMMARY

HISTORIC CONTEXT STATEMENT	
CONTENTS	**HIGHLIGHT OF FINDINGS**
Introduction • Project Background & Purpose • Definition of Geographical Area • Methodology & Research	• This Historic Context Statement documents the evolution of the UMED District from prehistory to the present in order to support and guide identification and evaluation of historic properties throughout the neighborhood, as well as to inform future planning decisions.
Previous Surveys, Studies, and Reports • Alaska Heritage Resources Survey (AHRS) • Archaeological Resources • National Register of Historic Places	• Previous surveys of the area include the Alaska Heritage Resources Survey (AHRS) and the National Register of Historic Places. These documents are on file at the Municipality of Anchorage Planning Department. • Five AHRS-listed properties are within the UMED District and one UMED District property is on
Historic Context of Anchorage • Alaska Native Peoples • Exploring Alaska • US Territory • Alaska Railroad & the Founding of Anchorage • Anchorage Townsite & Incorporation • World War II • Alaska Statehood • The 1964 Earthquake • Oil Industry • Municipality of Anchorage	• This section provides an abbreviated history of Anchorage to provide the background information required to understand the forces that shaped the development of the built environment in Anchorage.

DISTRICT PROFILE	
CONTENTS	HIGHLIGHT OF FINDINGS
Project Overview • Intent of Profile • Project Area • Organizational Collaboration • General Characteristics • Project Initiation and Timeline	• A central goal of the UMED District Plan is to facilitate collaboration between residential neighborhoods and the organizations. • The UMED District is home to 6,300 people, or 2.2 percent of the Municipality of Anchorage's residential population. • The natural setting is an important feature of the UMED District.
Neighborhoods, Community Design & Built Form • - Residential Neighborhoods • - Neighborhood Services • - Community Design and the Built Environment	• The residential neighborhoods include two mobile home parks, a neighborhood of primarily single-family homes, and a neighborhood with both single and multifamily housing. • The UMED District's location, setting, infrastructure, built environment, and branding reflect the balance between residential neighborhoods, institutional organizations, and the natural setting.
Organizational Profiles • Alaska Mental Health Trust Authority (The Trust) • Alaska Native Tribal Health Consortium (ANTHC) • Alaska Pacific University (APU) • Alaska Department of Transportation and Public Facilities • Alaska Psychiatric Institute (API) • George McLaughlin Youth Center (MYC) • Providence Alaska Medical Center (PAMC) • University of Alaska Anchorage (UAA	• This section discusses the mission statements and general services provided by: the Alaska Mental Health Land Trust, Alaska Native Medical Center, Alaska Pacific University, Alaska Department of Transportation and Public Facilities, McLaughlin Youth Center, Providence Alaska Medical Center, University of Alaska Anchorage.
Previous UMED District Plans • 1983 Goose Lake Plan • 2003 University Medical District Framework Master Plan	• Previous plans include the 1983 Goose Lake Plan and the 2003 University Medical District (U-MED) Framework Master Plan.
Organizational Master Plans • Alaska Native Medical Center (ANMC) • Alaska Pacific University (APU) • Providence Anchorage Medical Center (PAMC) • University of Alaska Anchorage (UAA)	• The Alaska Native Medical Center, Alaska Pacific University, Providence Anchorage Medical Center, and University of Alaska Anchorage have shared their master planning documents with the UMED District Update planning team.

DISTRICT PROFILE	
CONTENTS	HIGHLIGHT OF FINDINGS
Natural Resources • Anchorage Wetlands Management Plan • Chester Creek Watershed Plan • Principal Flora and Fauna • Wildlife	• Virtually all of the unbuilt land in the UMED District is either wooded or wetlands. • The District contains five lakes, a creek, and two hills. • Moose are present year round, the lakes provide habitat for wildlife, and a corridor along the creek provides for the movement of moose, fox, coyote, and black bear. • Anchorage completed the Anchorage Wetlands Management Plan in 1982, then updated, completed and adopted it in 1996, and in 2014, completed and adopted a third addition of this plan.
Recreation & Open Space • Park Plan • MOA Parks Within the UMED district • Anchorage Pedestrian Plan • Areawide Trails Plan	• Anchorage is a classic winter city with winter conditions for six months of the year. • The Municipality of Anchorage adopted the Anchorage Bowl Park, Natural Resource and Recreation Facility Plan in 2006, the Area-wide Trails Plan in 1997, and the Pedestrian Plan in 1978, with a revision in 1997. • Goose Lake Park and University Lake Park both serve important recreational needs.
Commercial, Housing, & Market Conditions • Key Findings • Demographics and Employment • Challenges to Development • Office Market Analysis • Residential Market Analysis • Retail Market Analysis	• The UMED District provides 13,700 jobs, making it one of the largest employment centers in the region and an important contributor to Anchorage's economy. • Over half of the UMED District is designated for organizational or public use. • In the short term, medical office development is likely to continue to be the highest and best use of developable land. • The addition of new households to the UMED District would increase the viability of new retail development, which is a common desire among District users and residents.
Transportation & Circulation • Introduction • District Motor Vehicle Access and Circulation • Public Transportation • Non-motorized Transportation • Parking Facilities	• Motor vehicular access remains the primary mode of transportation to and throughout the District, though efforts have been made to increase use of public transit, privately operated shuttles, cycling, and walking.
Regulatory Framework • Generalized Land Use Map, 1986 • Anchorage 2020: Anchorage Bowl Comprehensive Plan • Title 21 • 2035 Metropolitan Transportation Plan (MTP) • Anchorage Bicycle Plan	• Over the years, planning in the UMED District has been guided by the Generalized Land Use Map, the Anchorage Bowl Comprehensive Plan, Title 21, the 2035 Metropolitan Transportation Plan, and the East Anchorage District Plan.

HISTORIC CONTEXT STATEMENT	
CONTENTS	HIGHLIGHT OF FINDINGS

UMED District Area Development

- 1950's
- 1960's
- 1970's
- 1980's
- 1990's
- 2000-2015
- Alaska Pacific University (Alaska Methodist University)
- Providence Alaska Medical Center
- Alaska Psychiatric Institute (API)
- George M. McLaughlin Youth Center
- University of Alaska Anchorage (UAA)
- Alaska Native Medical Center (ANMC)

- The historical narrative in this section traces property and organizational history beginning in the 1950's through the 2000's.