

**ENERGY EFFICIENCY & CONSERVATION BLOCK GRANT
PROGRAM: ENERGY EFFICIENT TRANSIT ORIENTED
DEVELOPMENT DEMONSTRATION PROJECT
IN MOUNTLAKE TERRACE [SUMMARY]**

PRIMARY OUTCOMES

- **THE DESIGN AND APPLICATION OF A METHODOLOGY TO ESTABLISH ENERGY EFFICIENCY USE TARGETS RELATED TO TRANSIT ORIENTED PRIVATE MIXED-USE DEVELOPMENT PROJECTS IN MOUNTLAKE TERRACE.**
- **TARGETS THAT CAN BE USED TO MEASURE ACTUAL ATTAINMENT OF BOTH ENERGY SAVINGS AND THE REDUCTION IN DEPENDENCE UPON SINGLE OCCUPANCY VEHICLES (METRICS).**
- **THE SPECIFICATION OF ENHANCEMENTS TO THE TYPICAL PROCEDURES BY WHICH DEVELOPMENT PROJECTS ARE REVIEWED, PERMITTED AND INSPECTED.**
- **CHANGES WHICH INCORPORATE APPROACHES TO THE EXCHANGE OF INFORMATION RELATED TO ENERGY EFFICIENCY AND PROVIDE THE OPPORTUNITY FOR THOSE DELIVERING CONSERVATION INCENTIVES, SERVICES AND PRODUCTS TO COMMUNICATE THESE OPPORTUNITIES AT THE EARLIEST STAGES OF PROJECT PLANNING.**
- **WHERE THIS EFFECTIVE COMMUNICATION RESULTS IN GREATER ADOPTION OF ENERGY EFFICIENCY MEASURES WITHIN DEVELOPMENT PROJECTS.**
- **THE POTENTIAL TEST APPLICATION OF THE ENERGY TARGET METHODOLOGY AND THE MODIFIED DEVELOPMENT REVIEW PROCEDURES TO AN ACTUAL PRIVATE DEVELOPMENT PROJECT TO BE LOCATED WITHIN THE CORE AREA OF THE CITY'S TOWN CENTER.**

THE OPPORTUNITY

Trends and events throughout Washington State have combined to create the highest emphasis on the redevelopment of smaller, suburban communities and the creation of higher density mixed use neighborhoods, identified as "urban centers," within newer suburban locations. Most of these communities are initiating the planning for or embarking upon major redevelopment and therefore represent a significant opportunity to transform how energy is delivered and managed within relatively large and diverse geographic areas. In the vast majority of cases, these activities are integrated with existing or planned bus, rail or light rail systems as "*Transit Oriented Development.*"

These new urban centers provide the dual benefit of implementing aggressive adoption of energy efficiency measures within planned higher density mixed use neighborhoods while reducing the need for trips outside the neighborhood and providing the setting for greater reliance on transit.

Current examples of urban redevelopment within the Puget Sound region are numerous and include the cities of Everett, Burien, Renton, Mountlake Terrace, Sammamish, Lynnwood, Bellevue (the Bel-Red Corridor) Bothell and Tacoma. Given the constraint in readily developable land, shifts in consumer preferences and the costs of development, this trend toward higher density mixed use projects will continue and intensify, accounting for an ever increasing share of new residential and commercial development and redevelopment in our State.

Many of these same communities are enabling this change through the adoption of policies such as sustainability or climate change plans, which address energy use in buildings and transportation. However, these plans, while useful in establishing the legal basis for community action, lack the specific means to implement their intended policies.

Furthermore, although significant progress has been made with regard to improving buildings through efficient envelope designs, HVAC systems and appliance choices, little attention has been paid to a comprehensive attempt to view these emerging patterns as part of a new development process – a significant opportunity to consider and implement integrated technical and institutional approaches, both for energy supply and for energy consumption in a broader geographic area.

One of the most significant factors limiting the widespread adoption of energy efficiency measures within these mixed use, transit oriented developments is the lack of an effective and simple process by which local governments review, permit and inspect projects that leverage the increasing availability of resources in areas of energy efficiency including utility staff, architects and engineers, equipment installers and vendors.

For example, utilities generally become aware of the details of a proposed project too late in the design process (decisions and resources have already been fully committed) for project owners or developers to take advantage of conservation incentive programs. Meaningful participation of conservation staff is not part of the pre-submission or intake procedures for proposed projects nor do the forms provided to utilities to verify service availability contain information useful to conservation program managers. Even more crucial is the lack of an effective means to make those providers of new projects, renovations and tenant improvements aware of the specific types of measures that could be incorporated into their projects at minimal costs with substantial longer term operating cost savings.

Finally, there is no method for establishing energy use targets that are related to these mixed-use, transit oriented neighborhoods. Without these area-wide targets, there is no way to relate the performance of individual buildings to overall energy reduction achievements and targets. Without such overall targets, there is no way to evaluate the cumulative effects of more efficient buildings and neighborhoods on utility substation and service provision investments.

**THE RESPONSE: THE CITY OF MOUNTLAKE TERRACE
TOWN CENTER CORE
AN ENERGY EFFICIENT TRANSIT ORIENTED DEVELOPMENT DEMONSTRATION
PROJECT**

The **City of Mountlake Terrace, Washington** provides an ideal opportunity to develop and test a methodology to incorporate energy efficiency within the development review process and to establish actual energy use targets related to building densities and energy efficiency measures.

Mountlake Terrace is a typical smaller city involved with a concerted downtown redevelopment. The area within five miles of the urban core is projected to add about 85,000 jobs and grow by 90,000 households by 2030. In addition, a new Sound Transit multi-story parking garage has been completed that accommodates 800 parking stalls together with an extension of the light rail system schedule for 2013.

The City Council of Mountlake Terrace, after an extensive program of community involvement and support, adopted a new “Town Center Plan” in February of 2007 to re-imagine what had been the center for the city. The plan allows for higher density residential and commercial buildings, which could provide a compact mixed-use area with homes for thousand of new residents as well as locally based retail and professional office space, all within a short distance of a new city hall complex. In addition, the city adopted a “sustainability plan” in January of 2008 that provides the policy and citizen support for further, more focused initiatives.

Mountlake Terrace also has the advantage that its designated town center is only marginally developed. This provides a unique opportunity to plan and implement a coherent strategy for decentralizing the local energy supply, employing broader and coordinated approaches for conservation that are integrated with building specific measures and applying means to conserve and reuse water resources.

Most importantly, a new Sound Transit multi-story parking garage and transit center was dedicated in December 2008 that accommodates 800 parking stalls. In addition, a new light rail station is under construction within the Interstate 5 right-of-way adjacent to this transit center, as part of the northward extension of service. These transit opportunities are within easy walking distance form the town center core area. The city has already committed to the improvement of a pedestrian walkway system to link the town center to the transit center.

In addition to the involvement and support of city staff and leadership, the main local utilities, Snohomish County Public Utility District and Puget Sound Energy, will be active participants. The regional Snohomish County Economic Development Council, which represents major private sector financial and corporate entities, will serve as one means to assist in the transfer of the project findings from this demonstration project to the widest public and private sector adopters.

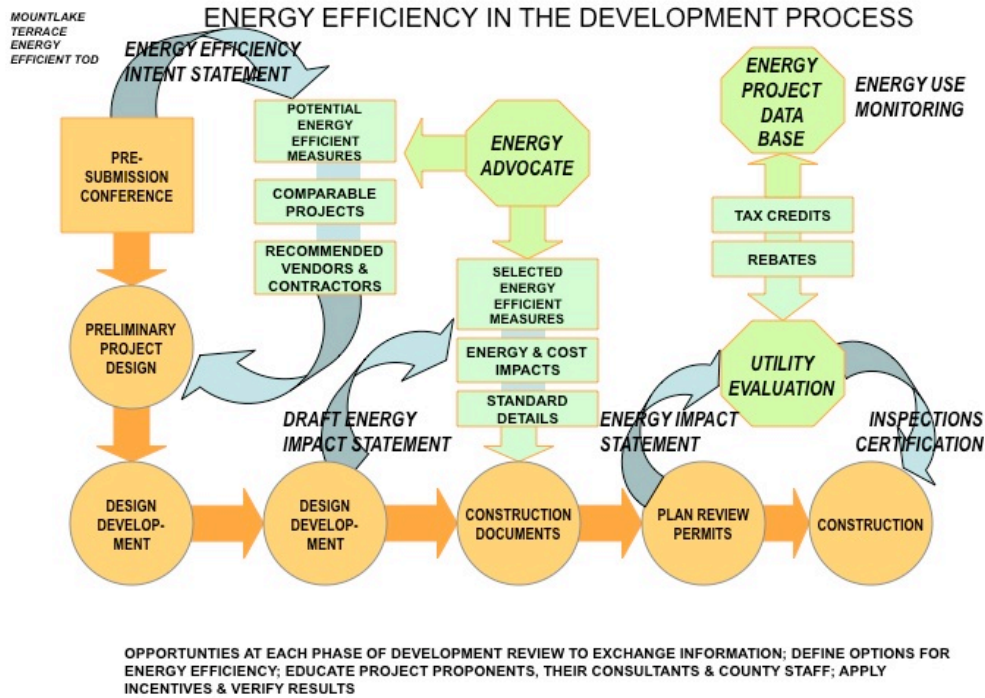
In addition, the developer of a 113 unit assisted living and congregate care project within the town center has agreed to serve as a test application of the results from Work Module 1 (see below).

THE WORK PROCESS

WORK MODULE 1: ENERGY EFFICIENCY IN THE PRIVATE DEVELOPMENT PROCESS

The process by which new projects, renovations and tenant improvements are reviewed is the only occasion when various parties involved in the development process must be present and comply with a range of requirements in order to proceed with securing financing and implementation. It is a process offering the opportunity for the widest exchange of energy efficiency information among those proposing and designing projects and those offering services, products and incentives.

In the following diagram, “Chart 1: Energy Efficiency in the Development Process,” examples of approaches to this information exchange are illustrated together with the incorporation of specific tools. These tools would facilitate effective information exchange that can educate those not exposed to the benefits from energy efficiency not only from a perspective of cost saving but also to improve their competitive advantage and resale value.

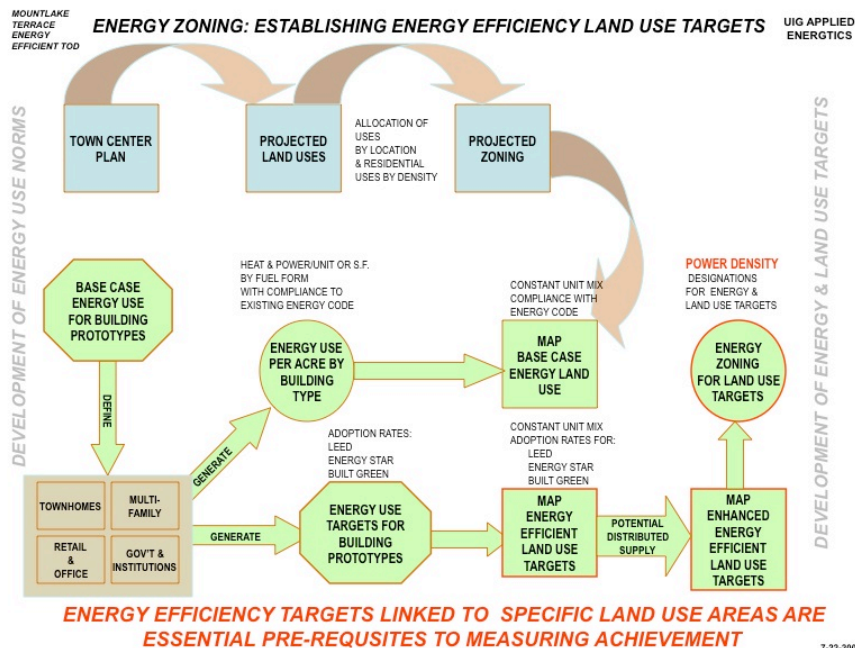


UIG APPLIED
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7-20-2009

WORK MODULE 2: ENERGY ZONING & THE METRICS FOR MEASURING SUCCESS

A measurement technique for relating energy use to specific land areas, “Energy Zoning” (developed by UIG Applied Energetics), will be refined and applied to the core area of the Town Center. The process to be followed, during this work module, is shown in the chart below, “Chart 2: Energy Zoning: Establishing Energy Efficiency Land Use Targets”.



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The capacity for the core area has been established through the zoning regulations approved by the City and represents the maximum development potential for the core area. Base case energy use, compliant with conformance with the State's energy code, will be identified for the several building types probable within the core area. This energy use will then be mapped for specific parcels as a base case power density (energy use/area of land).

Potential energy use for the building types, based upon compliance with higher levels of energy efficiency such as LEED or Built Green, would then be defined. These projections will be set as energy efficiency targets and mapped for the core area. A second iteration may then be defined assuming application of distributed supply approaches to the core area. Setting of these targets related to specific parcels within the core area of the town center will allow for measuring, over time, the actual achievement of energy use reduction.