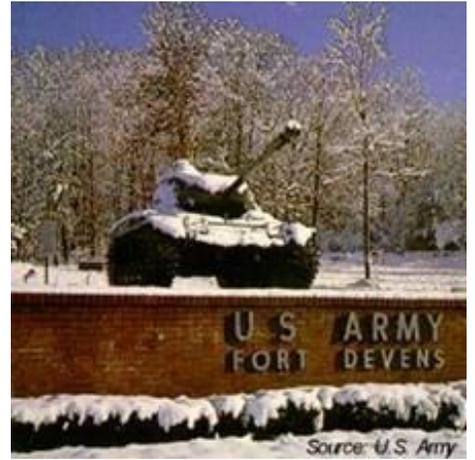
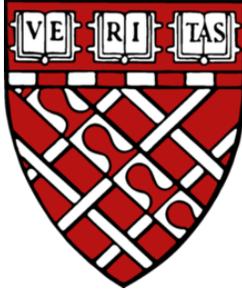


Devens Health Impact Assessment 2014

A review of planning and development regulations, policies and neighborhood design principles in Devens and their potential influence on public health.

By: The Devens Enterprise Commission
October 2014





The Devens Enterprise Commission is the land use planning and permitting authority overseeing the redevelopment of former Fort Devens, a military base that is being sustainably redeveloped. For more information on Devens and the Commission, visit our website at: www.devensec.com .

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To further add to the existing body of research on the relationship between community planning and health, the DEC will share the results of this Health Impact Assessment with the community, stakeholders and the Massachusetts planning and development community in general. The full report is available on-line at www.devensec.com

This study would not have been possible without the efforts of Sang Cho, DEC Intern and co-author of this report, who recently completed his Master's Degree in Landscape Architecture from the Harvard Graduate School of Design; Neil Angus, AICP CEP, LEED AP for helping guide this assessment and co-authoring this report; and Laura Smead, Health and Place Initiative Research Associate with the Harvard Graduate School of Design for her time and assistance in participating in the HIA and helping reviewing the final report.

On Behalf of the DEC, I would like to extend our profound thanks to all who participated in the development and execution of this HIA.

Sincerely,

Peter Lowitt, FAICP
Executive Director,
Devens Enterprise Commission

Executive Summary

With obesity rates in the United States at an all-time high, many planners across North America believe it's time to reconnect with our roots and more clearly align community planning and public health issues. How we develop our cities and neighborhoods can have direct and indirect impacts on public health issues. Understanding the relationship between health and planning or policy decisions allows decision-makers to “gain better insight of outcomes, balance health against other policy considerations, appraise options, and improve the tradeoffs” (Kemmm, Parry 2004). Simply put, knowing more allows for more nuanced and comprehensive solutions to the complex problems decision-makers face.

Recognizing the connections between land use planning and public health, the Devens Enterprise Commission (DEC), the regulatory agency overseeing the redevelopment of a 4,400 acre former military base located 35 miles west of Boston, Massachusetts, adopted a Healthy Communities Proclamation (<http://www.devensec.com/sustain.html>). This proclamation recognizes that what we build is important, but how and where we build is equally important and can directly influence the day-to-day activities that impact public health. To build off of the Healthy Communities Proclamation and further promote the sustainable redevelopment of Devens, in early 2014 the DEC conducted a Health Impact Assessment (HIA) in partnership with an interdisciplinary group of representatives from the existing residential neighborhoods in Devens, the Massachusetts Department of Environmental Protection, Nashoba Valley Medical Center, and the Harvard Graduate School of Design. The HIA provided a window of opportunity for the Devens Enterprise Commission to:

1. Compare and contrast the potential health impacts of two alternative regulatory compliance paths for future residential development in Devens;
2. Encourage community engagement and discussion among local decision-makers and stakeholders about planning for healthy communities and how these elements might be considered in future projects and plans;
3. Increase awareness of the multiple factors that can impact health and design, and;
4. Prevent or mitigate negative health outcomes by applying the broad and holistic methodologies and analytical tools used to conduct an HIA.

This approach was developed to help ensure health implications are taken into consideration to promote redevelopment that is more equitable, while at the same time addressing traffic congestion, air quality, as well as public health and safety. While there is no “one-size fits all” solution, raising awareness of the connections between planning and design choices and public health early in the planning and development process will help foster a more sustainable approach to any future redevelopment in Devens.

The Grant Road Residential District within Devens was identified as the primary area for future residential development within Devens as part of the Devens Reuse Plan. This HIA used mock development scenarios to evaluate the potential direct and indirect public health implications of each of the two regulatory compliance paths. To ensure a more comprehensive approach to this HIA, the geographic boundaries of the study area were expanded to include all 4,400 acres of Devens, as well as the surrounding communities of Ayer, Shirley, and Harvard.

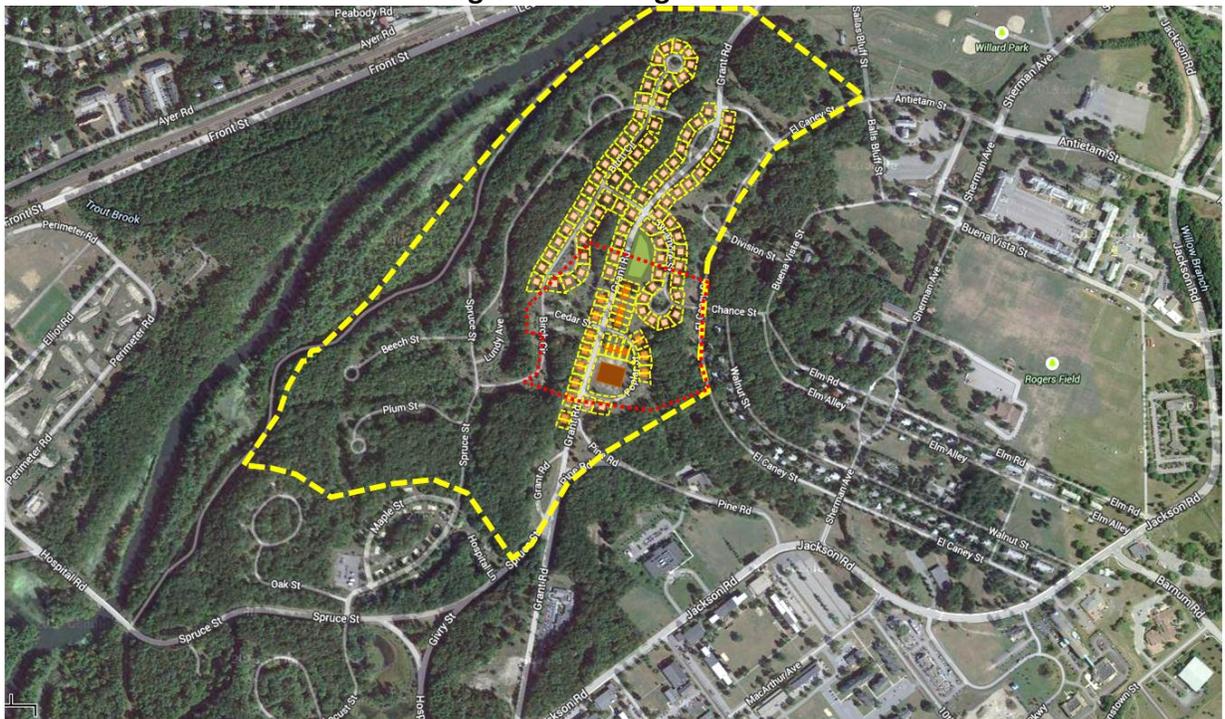
Mock Development Scenario #1: Innovative Residential Development (IRD) Regulatory Compliance Path – 120 units over 30 Acres in the Grant Road neighborhood:



Housing Mix: (#of units)

 30 single family	 16 single fam. cottage	 16 two-family	 28 – multi-family (9x 3-4 units)
 30 multi-family (4x 6-12 units)			

Mock Development Scenario #2: Conventional Residential Development Regulatory Compliance Path – 120 units over 60 Acres in the grant road neighborhood:



Housing Mix: (#of units)

 80 single family	 22 two-family	 12 – 3-4 family	 6 multi-family (1x6 unit)
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The mock development scenarios were evaluated against a number of key components of a healthy community: Sustainable safe transportation, healthy housing, healthy economy, social cohesion, public infrastructure and environmental stewardship as well as land use:

Healthy Housing: Devens is a model of sustainable development and as such the use of energy-efficient construction and renewable energy systems are encouraged, in addition to utilizing building materials and finishes that contribute to healthy indoor air quality. Devens is also a former Superfund site and the Grant Road housing area is a brownfield site that has been remediated to facilitate redevelopment.

Social Cohesion: Devens requires a mix of housing tenure, type and affordability be provided as part of any Grant Road redevelopment scenario – facilitating the creation of a more socially diverse community. The Grant Road area is in proximity to an existing neighborhood and any future development needs to be compatible with and respect existing residents. Community interaction and availability of services are important considerations. Crime rates are very low in Devens but perceived safety is an additional aspect that will impact social cohesion.

Healthy Economy: Devens is a regional employment center with over 4,000 jobs and continues to attract a diverse array of business and industry. Devens currently has and requires new developments to include various forms of low and moderate-income housing to attract a diverse range of individuals and families with varying income levels and be within close proximity to jobs within Devens.

Environmental Stewardship: Devens lies within a non-attainment area for air quality (Ozone) as designated by the US Environmental Protection Agency. Redevelopment scenarios each have varying levels of impact on air and water quantity and quality. Access to open space with its mental health benefits also varies with each development scenario.

Sustainable Safe Transportation: The Grant Road redevelopment area is located within two miles of two commuter rail stations on the MBTA Fitchburg Commuter rail line. It is also located within two miles of the Jackson Road exit onto Route 2, a major east west transportation corridor. Each mock development scenario provides differing levels of multi-modal (walk, bike, drive, transit) transportation options. Each mock development scenario provides different levels of connectivity and accessibility. Universal design (unrestricted access for all ages and abilities) and safe, convenient access to recreation and public health facilities/services are important considerations for either development scenario.

Land Use: The Grant Road area is zoned for residential uses. Community services are within biking and walking distance of some portions of the Grant Road area. The Grant Road area is served by existing water, sewer, electric and natural gas infrastructure.

This HIA includes a comprehensive review of each of the six key steps that went into the planning, development and execution of this HIA:

1. **screening** to determine whether an HIA is appropriate or required;
2. **scoping** to identify which health effects to consider;
3. **assessment** to identify the magnitude of health impacts and the affected population;
4. **recommendations**, to aid in avoiding and/or mitigating potential adverse health effects;
5. **reporting** to present results to decision-makers and community stakeholders, and;
6. **monitoring and evaluation** to review and evaluate the actual health outcomes.

Summary of HIA Steps:



Extensive research, literature reviews and consultations with health professionals were undertaken as part of the initial screening and scoping phases of this HIA. Using both qualitative and quantitative methods, this information was used to help prioritize health impacts as they related to potential residential development in the Grant Road area. Stakeholder input from local residents along with a team of interdisciplinary professionals from urban planning, design, and public health participated in a one-day workshop that evaluated the two mock development scenarios for the Grant Road neighborhood.

Based on all of the information collected as part of this HIA, four key priority impact areas were identified for Devens:

- **Social Cohesion:** Promoting opportunities for social interactions between community residents, businesses and organizations;
- **Access to Healthy Foods:** Providing better access to local food sources, and educating residents to help improve their ability to make healthier food choices;
- **Environmental Health:** Development that promotes more compact, efficient forms of development that preserve open space, reduce greenhouse gas emissions and improve overall environmental health;
- **Public Health and Safety:** Inclusionary neighborhood design that focuses on people, not just cars and provides accessibility for all ages and abilities.

From these priority impact areas, a number of programming, policy and regulatory recommendations were developed to help maximize healthy community design principles in any future redevelopment of the Grant Road residential area:

1. Promote the use of more compact development patterns;
2. Adopt a complete streets policy for universal accessibility and promote high levels of street connectivity to encourage walkability and avoid funneling new traffic into existing residential areas within Devens
3. Introduce traffic calming measures to reduce speeds in residential areas and improve safety. Effective traffic calming measures could include but not be limited to street trees, a single-lane roundabout at the Grant, Pine and Hospital intersection, bump-outs, chicanes, sidewalks, exclusive pedestrian-scale lighting, signal phasing and refuge islands;
4. Incorporate safe routes to schools to facilitate walking and biking, thereby reducing auto dependency, improving air quality and promoting physical activity;
5. Promote more energy and water efficient development techniques such as lower HERS rating requirements and higher water efficiency standards to further the sustainable development goal of the Devens Reuse Plan;

6. Incentivize and support community gardens to promote social interaction and better access to local and healthy foods;
7. Educate residents about raised planting beds and other safe management approaches to growing, harvesting and preparing their own food in Devens;
8. Research the feasibility of establishing transit service, taking into account projected employment and population growth in Devens;
9. Support existing food pantry serving healthy foods;
10. Provide nutrition and gardening classes for residents and businesses;
11. Provide local recreational, as well as historic, cultural and educational amenities for Devens residents and our neighbors from surrounding communities;
12. Organize community walks and other events that promote more social interaction and healthy lifestyles;
13. Provide a variety of housing options for larger and smaller lots with varying sizes of private and public spaces to offer more choice and social diversity;
14. Consider local transit stop locations to provide transportation options and promote the potential health benefits associated with transit usage;
15. Use architecture and design techniques to assure privacy and access/views to green space are available on or from all lots. Use these same techniques to ensure universal design features are incorporated into all aspects of the built environment;
16. Invest in community development projects such as neighborhood parks to provide more recreation and social interaction opportunities;
17. Develop an array of social programs to meet the needs of a diverse population (children to adults and special needs populations).

Understanding the multiple connections that each of these recommendations has to each of the priority impact areas is also key to their successful implementation. The full report includes a series of figures that depict each of the recommendations and how they relate to and overlap with a number of the HIA priority impact areas.

Ultimately, the results of this HIA were mixed. Compact development is not necessarily a 'silver bullet' for providing better health outcomes in all situations. Through this exercise we learned a great deal about the connections between planning and public health. The authors of this report would recommend the use of Health Impact Assessments in any areas undergoing redevelopment - in order to better comprehend the connections between planning and public health - for the broader public good.

This Health Impact Assessment ultimately reinforces the nexus between planning and public health issues. By evaluating and understanding how regulations, policies and urban design choices might impact public health, the DEC will be able to use the results of this HIA to help raise awareness of and educate the general public and the development community on the interconnectiveness between planning, development and public health. The research in this HIA linking the built environment and its associations with public health issues was truly eye-opening and makes a great case for designing communities that integrate the natural environment and consider people first. As part of its 5-year review process, the DEC will evaluate and monitor the implementation of healthy community design principles and the recommendations in this report in an effort to help further the sustainable redevelopment goals of the Devens Reuse Plan.