

MEMORANDUM

Date: July 25, 2007

To: Tri-town Task Force

From: Ken Buckland

RE: Visual Preference, Application of Findings, and Design Guidelines

Visual Preference Survey

A visual preference survey was completed to provide ideas for design guidelines that would further define the master plan concepts and pull together the land use concept into a single overarching design document.

Method and Results

A visual preference survey is a standard format for public input where participants respond to images of development and land use and rank them according to their own tastes. The images that were used are shown in the attachment. The choices for the images used in this step were based on the following:

- *What are the market-based land use products?* – This led to the inclusion of retail, office, and biopharm facility images.
- *What are the previously desired or requested products?* – This led to the inclusion of hotel/convention and residential images.
- *What are the ranges of those products?* – This led to the inclusion of images showing different mixes, densities, and variations on type.
- *What may be necessary to support the types of development shown?* – This led to the inclusion of parking garages.

The focus of the images on certain aspects of each land use type tends to lead the viewer to certain decisions. As an example, including substantial open space in an image of a lifestyle retail center leads the viewer to rank the image according to both their values placed on open space as well as on retail.

In addition, the “negatives” or questions about the image are perceived from the standard deviation in the rankings. The higher the standard deviation, the less sure we are that the idea will be acceptable without additional information or discussion. As examples, the high standard deviation on the ranking for mixed retail with residential makes this option less strong in preference than the laminated parking garage, and the

very high deviation for the variations on big-box or large format retail suggest that some option of this use may be acceptable.

The attempt is made to understand these preferences and use that information to help create the guidelines that promote market-based design and development while at the same time maintaining the public preferences and principles.

The forms provided to the participants allowed numerical rankings with a maximum range of +3 (desired) to -3 (not desired). Here are the top, summary results:

Rankings

Highest Ranked	Image	Value	Standard Deviation
1	Lifestyle retail with open space	2.3	0.75
2	Biopharm facility	2.1	1.04
3	Lifestyle retail with boulevard	2.0	1.02
4	Mixed use retail with upper story space available for office or residential	1.8	1.53
5	High-rise hotel/conference	1.4	1.33
6a	Laminated parking garage	1.5	1.57
6b	Mixed use retail with residential	1.5	1.69
Lowest Ranked			
	High-rise residential	-1.1	1.68
	Strip commercial	-1.4	1.43
Widest Deviation			
	'Big box' [Smaller scale]	-0.5	2.26
	Indoor mall	-0.9	2.21

Note: 6a and 6b are ranked lower than 5 because of the standard deviation.

Rankings from Separate Andover Meeting

A separate meeting was held in Andover under the sponsorship of the League of Women Voters [LWV]. The results of this meeting are included to indicate the potential differences that may be discussed in each community as the towns proceed with the local adoption of design guidelines.

Andover LWV Rankings and Comparison with Task Force Rankings

Highest Ranked [Value from Task Force]	Image	Value [Value from Task Force]	Standard Deviation [Value from Task Force]
1 [2]	Biopharm facility	2.2 [2.1]	1.39 [1.04]
2 [1]	Lifestyle retail with open space	1.8 [2.3]	1.52 [0.75]
3 [10]	Corporate office	1.7 [0.8]	1.56 [1.36]
4 [4]	Mixed use retail with upper story space available for office or residential	1.4 [1.8]	1.75 [1.53]
5 [6]	Laminated parking garage	1.3 [1.5]	1.85 [1.57]
6 [3]	Lifestyle retail with boulevard	1.2 [2.0]	1.74 [1.02]
Lowest Ranked			
	Indoor mall	-1.8 [-0.9]	1.32 [2.21]
	Big box	-2.0 [-1.5]	1.5 [1.78]
Widest Deviation			
	High rise residential	-0.9 [-1.1]	1.97 [1.68]
	Large mixed use	-0.7 [0.3]	2.22 [2.0]

Applying the Information

This information can now be translated into design principles and guidelines for the future redevelopment and development of the Junction area. It is important to point out that the key land use decisions have already been made in each community according to the established zoning, and nothing in these results suggests that the underlying zoning should be changed in any significant ways. What this information provides is clarity on the design considerations that should be included in the overlying master plan approach to the redevelopment of the Junction area.

Based on the results of this process of visioning with the Task Force, some key points can be made:

1. Existing zoning in each community can be used "as is" to encourage the acceptable land use types.
2. Design guidelines will add the special public criteria to make sure the developments built according to the zoning provide the best possible solution for the communities and the Junction area.
3. Each community will be responsible for adopting and implementing the design guidelines to ensure coordination across the Junction area.

Proposed Land Uses

The proposed land use has been presented in the Vision. Fortunately, the proposed land uses that will be permitted within the area include those already adopted and approved in the each town's zoning bylaws.

Andover's land is currently zoned as Industrial A, which designates the area primarily for non-retail commercial uses, such as offices, high-tech or biotech facilities, manufacturing, and warehousing.

A major portion of the undeveloped land in Tewksbury on the western side of I-93 is currently an overlay zone known as the Highway Corridor Overlay District (HCOD). This overlay district originated in a developer's agreement between the town and Mills Corporation, anticipating the construction of a regional shopping center. Until a special permit (HC-SP) issued through a two-step process, the underlying zones continue to govern the uses of this land. In the absence of this overlay zone, the area would otherwise be designated for residential use (R-40).

Wilmington's undeveloped land within the Tri-town Unified Vision Focus Area is currently zoned as three Zones: General Industrial (GI), Residence 20 (R-20), and Residence 60 (R-60).

Based on these zoning criteria, the Vision, and the priorities of the Task Force, the list of land uses proposed for consideration in the Design Guidelines includes:

1. Mixed Use
2. Retail

3. Office, Research and Development, Manufacturing
4. Hotel/Conference
5. Residential

With these land uses determined the design guidelines can be crafted to provide appropriate standards of performance in design. A suggested outline and approach is described below.

Outline of Proposed Junction Area Design Guidelines

After each community approves the Design Guidelines, the use of these criteria will apply to all development agreements and project reviews that come before the town boards and commissions. The idea behind the design guidelines is to provide a flexibility that matches the design process, but also provides verifiable standards of performance that can be made part of the development approvals. These guidelines can be adopted as specific standards or as negotiated criteria for development review. The legal basis for acting on the guidelines must be determined during the adoption process.

Area-wide Design Principles

The key design principles that are recommended to guide redevelopment throughout the Junction Area are:

1. *Connections* – Development projects in the Junction area will capitalize on the major investment in public roads and highways by providing safe connections and improved traffic patterns that do not compound or create significant impacts to existing residential neighborhoods, while at the same time creating the impetus for major investments in the highway and local road system.
2. *Mixed Use* – Within the uses allowed by each community's zoning, the development of the Junction area should create a mix of activities and uses, made compatible through each project's design.
3. *Life Sciences and High Tech Corridor* – There are two aspects to support of the Life Sciences and High Tech Corridor. One aspect is the continued assistance to existing businesses through infrastructure improvements and construction of related and supporting projects, the other aspect is the allowance for expansion that is available under existing zoning.
4. *Sustainability* – The long-term impacts associated with the Junction area's development must resolve with the need to preserve the quality of the environment for future generations.
5. *Open and Public Spaces* – Open spaces within the area must be provided to create visual interest and provide visual relief, allow passive and active use, and provide spots for programmed activities.
6. *Cooperation for Value Enhancement* – High quality development is a requirement. Construction within the Junction area should enhance the local

tax bases and the public realm. The public standards guiding development must not create undue burdens that would limit those qualities, and in turn the public expectations for private development will remain high.

7. *Design Coordination* – The various projects within the Junction area should recognize a value in design integration among the towns.

General Project Guidelines

This section will set the general standards that apply to the earliest stages of design and set the stage for the later, more detailed analyses.

Design Approach

1. Create dense, sustainable development
2. Include a mix of uses
3. Provide open space relief and public spaces within the areas of dense development

Design Guidelines

This section will set the standards that apply to the elements of design and allow the more detailed analyses and performance review. Typical sections would at least include the following.

General Architecture

1. Building Massing and Scale
 - Density shall be based on functionality and value
2. Style and Composition
 - Employ more than one architectural style but keep the elements of each building consistent in style.
 - Avoid historical misrepresentations
 - Provide a broad range of materials and color
 - Provide rooflines with distinctive elements appropriate to its size

Architecture by Land Use Type

1. Mixed Use Buildings
 - Provide retail on ground floor with storefronts, displays with a relationship to the pedestrian and travel ways.
 - Provide flexible use of upper stories
2. Retail Buildings

- These buildings may include national retailers but must provide street facades that provide actual and significant storefronts, windows and entrances
 - Repetitive elements across long façades must be limited
3. Office, Research and Development, Manufacturing
 - Adjacent buildings must have different architectural treatments in at least two major ways to distinguish the buildings
 - Parking areas for bicycles, buses, car-pooling and alternative fuel vehicles must be provided
 4. Residential
 - When included, residential units shall be integrated with the commercial uses in the mixed use format
 5. Parking Structures
 - Creative design approaches (laminates, vegetation, grade changes, building integration) must be used to reduce the visual impact of parking structures
 6. Hotel/Conference Center
 - More creative design approaches can be encouraged with the design of a unique facility.

Landscape

1. Types of Spaces:

- a. Natural Landscape

Natural landscapes should be areas that provide a true function such as land use separation, conservation areas, or riverfront protection. The maintenance of those areas will be subject to the determination of their qualities and functions.

- b. Parks

Parks should provide formal settings for public congregation. The programming of these spaces for activities should be included as part of the design process.

- c. Street Plazas

Hardscape plazas with a minimum of plantings should be provided within the retail/commercial areas to provide outdoor seating.

- d. Sheltered Plazas

Sheltered plazas provide seating within a "three season" environment.

- e. Pedestrian Malls

Pedestrian malls shall be provided to connect and front retail and commercial areas.

f. Streets

The design of streets will be organized in a hierarchy based on function. Landscaping will be consistent with those functions:

1. Interstate and ramps
2. Commercial roads
3. Residential roads
4. Private drives

2. Design considerations:

The following design considerations shall be given a relative weight according to the type and function of the spaces being designed.

- a. Function, size, activity
- b. Microclimate
- c. Plantings
- d. Visual and spatial complexity
- e. Signage, lighting and visibility for passage
- f. Seating, activity areas

Sustainability

For determining sustainability, a set of performance measurements is recommended to analyze each project or even the area as a whole. The performance criteria could include a combination of carbon reduction and offset approaches and "green" building standards.

It is commonly reported that the production and emission of so-called "greenhouse gases," and in particular carbon dioxide, is creating adverse climatic conditions that have an impact on global ecosystems and the quality of life for humans. The approach to modifying impacts from the production of greenhouse gases is to consider certain metrics and performance standards that would request:

- Reduction in carbon use and emissions
- Off sets for non-reducible carbon use

Reductions come from improved designs, building systems and modification of transportation modes. Off-sets can be provided with such actions as the planting and preserving of trees and forests.

Green building standards are available through the U.S. Green Building Council in the form of the Leadership in Energy and Environmental Design (LEED) program. Communities have adopted guidelines similar to LEED (e.g. Santa Monica, CA) or requesting a report on conformance with the LEED guidelines (e.g. Boston). However, because zoning is not enabled to control internal building systems, there is a very limited level of control. The standards that have been proposed under LEED for a district include the elements as listed in the following table.

LEED for Neighborhood Developments Rating System - Preliminary Draft from September 6, 2005; U.S. Green Building Council; Summary List of Criteria

Criterion	Possible Points	Notes
Location Efficiency (2 Prerequisites / 7 Credits / 28 Points / 25% of total points)		
Prerequisite: Transportation Efficiency	-	
Prerequisite: Water and Stormwater Infrastructure Efficiency	-	
Credit: Contaminated Brownfields Redevelopment	4	
Credit: High Cost Contaminated Brownfields Redevelopment	1	
Credit: Adjacent, Infill, or Redevelopment Site	3 to 10	
Credit: Reduced Automobile Dependence	2 to 6	Requires vehicle-sharing program
Credit: Contribution to Jobs-Housing Balance	4	Requires 50% balance of jobs to population
Credit: School Proximity	1	Requires a school within ½ mile
Credit: Access to Public Space	2	
Environmental Preservation (5 Prerequisites / 11 Credits / 13 Points / 11% of total points)		
Prerequisite: Imperiled Species and Ecological Communities	-	
Prerequisite: Parkland Preservation	-	
Prerequisite: Wetland & Water Body Protection	-	

Prerequisite: Farmland Preservation	-	
Prerequisite: Erosion & Sedimentation Control	-	
Credit: Support Off-Site Land Conservation	2	May require TDR
Credit: Site Design for Habitat or Wetlands Conservation	1	
Credit: Restoration of Habitat or Wetlands	1	
Credit: Conservation Management of Habitat or Wetlands	1	Requires on-site management plan
Credit: Steep Slope Preservation	1	
Credit: Minimize Site Disturbance During Construction	1	
Credit: Minimize Site Disturbance Through Site Design	1	
Credit: Maintain Stormwater Runoff Rates	1	
Credit: Reduce Stormwater Runoff Rates	1	
Credit: Stormwater Treatment	2	
Credit: Outdoor Hazardous Waste Pollution Prevention	1	
Compact, Complete, & Connected Neighborhoods (3 Prereq / 22 Credits / 42 Points / 37% of total points)		
Prerequisite: Open Community	-	
Prerequisite: Compact Development	-	Requires FAR 0.5 minimum
Prerequisite: Diversity of Uses	-	
Credit: Compact Development	1 to 5	Requires higher FAR
Credit: Transit-Oriented Compactness	1	Requires transit stop
Credit: Diversity of Uses	1 to 3	
Credit: Housing Diversity	4	
Credit: Affordable Rental Housing	1 to 2	
Credit: Affordable For-Sale Housing	1 to 2	

Credit: Reduced Parking Footprint	2	
Credit: Community Outreach and Involvement	1	
Credit: Block Perimeter	1 to 4	
Credit: Locating Buildings to Shape Walkable Streets	1	
Credit: Designing Building Access to Shape Walkable Streets	1	
Credit: Designing Buildings to Shape Walkable Streets	1	
Credit: Comprehensively Designed Walkable Streets	2	Requires urban-style street network
Credit: Street Network	1	Requires urban-style street network
Credit: Pedestrian Network	1	
Credit: Maximize Pedestrian Experience	1	
Credit: Superior Pedestrian Experience	1 to 2	Requires urban-style street network
Credit: Applying Regional Precedents in Urbanism and Architecture	1	
Credit: Transit Subsidy	3	
Credit: Transit Amenities	1	
Credit: Access to Nearby Communities	1	
Credit: Adaptive Reuse of Historic Buildings	1 to 2	
Resource Efficiency (0 Prerequisites / 17 Credits / 25 Points / 22% of total points)		
Credit: Certified Green Building	1 to 5	
Credit: Energy Efficiency in Buildings	1 to 3	
Credit: Water Efficiency in Buildings	1 to 2	
Credit: Heat Island Reduction	1	
Credit: Infrastructure Energy Efficiency	1	
Credit: On-Site Power Generation	1	

Credit: On-Site Renewable Energy Sources	1	
Credit: Efficient Irrigation	1	
Credit: Greywater & Stormwater Reuse	2	
Credit: Wastewater Management	1	
Credit: Reuse of Materials	1	
Credit: Recycled Content	1	
Credit: Regionally Provided Materials	1	
Credit: Construction Waste Management	1	
Credit: Comprehensive Waste Management	1	
Credit: Light Pollution Reduction	1	
Credit: Contaminant Reduction in Brownfields Remediation	1	
Other (0 Prerequisites / 2 Credits / 6 Points / 5% of total points)		
Anticipated Accredited Professional Innovation Credit(s)	1 to 2	
Anticipated Innovation Credit(s)	1 to 4	
TOTAL	114	

Additional Resources

The following is a list of existing documents that can be used as examples of existing design guidelines and standards.

Downtown Austin [Texas] Design Guidelines. Adopted on May 18, 2000 specifically for the main downtown district.

To obtain a copy of the Guidelines go to
www.ci.austin.tx.us/downtown/downloads/030612-93.pdf.

Cordage Park, Smart Growth Design Standards, Town of Plymouth, Massachusetts. Adopted by the Town of Plymouth as Section 205-74 of its Zoning Bylaw (Cordage Park Smart Growth District, CPSGD) on May 20, 2006 for a 40R district.

To obtain a copy, the complete document can be found at:
<http://www.plymouthma.gov>

Design Regulations (Section 9.0 of the Planning Ordinance) and Streets and Greenways (Section 11.0 of the Planning Ordinance), City of Davidson, North Carolina. Davidson received an EPA Smart Growth award for its ordinances.

To obtain a copy, the entire Planning Ordinance is available at:
<http://www.ci.davidson.nc.us/units/planning/ordinance/default.asp>

Smart Growth Tool Kit, EOE, Massachusetts.

To obtain a copy, the complete document, together with other Smart Growth tools is available at:
http://www.mass.gov/envir/smart_growth_toolkit/index.html

Landscape Plan and Street Design Requirements, N.A.S. South Weymouth, South Shore Tri-Town Development Corporation, Massachusetts.

Information on the N.A.S. South Weymouth Master Plan and related standards, Bylaws and regulations can be found at:
http://www.ssttdc.com/bd_zoning_land_use.htm

Landscape and Aesthetics, Chapter 13 of Massachusetts Highway Design Regulations.

Chapter 13 of the Massachusetts Highway Department Project Development and Design Guide can be found, together with the other chapters that form the document at http://www.vhb.com/mhdGuide/mhd_GuideBook.asp

Guidelines for Community Design, Town of Simsbury, Connecticut.

To obtain a copy, the complete document is available at:

http://simsburyct.virtualtownhall.net/Public_Documents/Departments/SimsburyCT_Planning/index