



Many of the older neighborhoods in Cheyenne avoid overly repetitious residential design by differentiating housing types. Even differentiating smaller architectural details, form and entry features can make similar building masses distinct.



Some older neighborhoods demonstrate the ability to have smaller lots with streetscapes that are not dominated by cars and garages. The form of the building emphasizes people first by placing the porch at the front, rather than a garage.



“Poor pedestrian connectivity” was listed by residents as another element of Cheyenne’s urban form that needs improving. This sidewalk is too narrow to create a safe and functional pedestrian area.

INTRODUCTION...

This structure paper focuses on the issue of improved design at the site level – primarily the arrangement of buildings, open spaces and other elements on a single development site. Often efforts at improving site level design confuse or over-emphasize the role of architectural style. While the selection of a particular architecture style may be important to how a designer approaches any one project, this paper emphasizes the role that form plays in meeting broader planning goals and specifically the City’s and community’s interest in a well-planned urban form applied consistently across multiple sites. A simple comparison is that *style* standards may impact how a building looks, while *form* standards impact how a building relates to surrounding areas.

WHAT IS FORM?

Form – or more comprehensively “urban design” – concerns the relationships of buildings and the spaces between buildings. These relationships exist independent of architectural style. While architectural styles may have specific applications of materials, design details or other components of buildings unique to each style, form standards transcend styles and focus on three key building and site design elements that exist regardless of any particular architectural style that is selected: (1) Scale; (2) Orientation, and (3) Permeability.

How well buildings and spaces between buildings relate – the overriding urban design goal – will largely be determined by scale, orientation and permeability, and not necessarily by the architectural style. Addressing these elements consistently across multiple sites will do more to establish the desired character of a district than standards addressing architecture and style.

WHAT PLANCHEYENNE SAYS...

The issue of good design is prevalent throughout *PlanCheyenne*, but most specifically addressed in the Structure Plan, *A Community Design Handbook*. Key sections include Section 2, *Regional Architectural Identity* and Section 5, *Design Principles for New Development*. Collectively, these sections indicate that Cheyenne’s “authenticity” in architecture is derived from evolving historic western traditions. As this evolution continues, good design is rooted in three main themes: (1) maintaining diversity and visual interest throughout the community, (2) designing for people first and accommodating cars, and (3) relating building and site design to civic space – the streets and open spaces of Cheyenne.

Several specific principles included in *PlanCheyenne* embody these three main themes. The Plan recognizes the importance of implementing these principles at the site level, in order to achieve the broader goals of the 7 Community Foundations and 10 Key Land Use Concepts from *PlanCheyenne*.

The following excerpt from *PlanCheyenne* is indicative of the importance of good design to the community and the role that improved urban form plays in improving design.

What Would We Like to Change About Cheyenne?

- *Overly repetitious residential design*
- *Overly simple architectural design*
- *Widespread growth of large lot “ranchettes”*
- *Residential streets dominated by cars and garages*
- *Billboards*
- *Overhead utility lines*
- *Poor pedestrian connectivity*
- *Streets without sidewalks*
- *Impersonal, placeless design that could be anywhere in the country*
- *Tall signs that overwhelm the setting*

Structure Cheyenne, Section 1 – The Community-Driven Process, page 8.



In the top photograph, the store-front windows, awnings and architectural details break up the size of the building into *proportions* that encourage pedestrian activity.

The large proportions and lack of relationship to the parking area/street in the bottom photograph discourages pedestrian activity. The proportion of areas dedicated strictly to automobile-scale design and lack of pedestrian-scale features make this place unaccommodating for pedestrians.

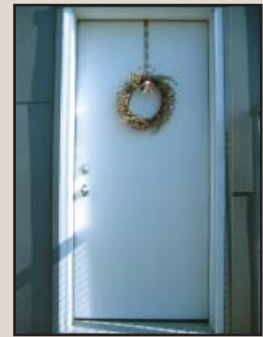
KEY ELEMENTS OF FORM...

A key planning concept prevalent in *PlanCheyenne* is “pedestrian-scale” design – that is the design of sites and buildings that relate to or has elements that are easily perceived by persons. This means a building’s component parts relate to the size of a person rather than other objects. The antithesis of “pedestrian-scale” design is reflected by a tendency for development to become more automobile-scale.

Mass is the overall volume of a building. Scale is different than mass. **Scale** is the size of a form or space as perceived in relation to something else.

In this regard, two forms that have the same actual mass may be of a different scale because of how they are perceived. Scale can be manipulated to make a form appear larger or smaller. In addition to simply reducing the overall mass, three basic design techniques used to achieve an appropriate scale are *proportion*, *articulation* and *rhythm*.

- **Proportion** is the relationship, size and shape of one part of a form or space to another part of a form or space. Related and consistent proportions between elements of a building or site do a better job of



The *rhythm* of architectural details becomes apparent on the portion of a façade.



The *rhythm* of building openings becomes apparent when viewing the whole façade.



The *rhythm* of facades becomes apparent when viewing the entire street-wall along a block.



Articulation is how the elements/form of a building create exterior spaces. This building's walls help to frame a plaza and create a comfortable space for people to enjoy.



Orientation of buildings indicate to the community the importance of the building and the spaces around the building. The placement of the Capitol serves to punctuate the importance of the building by interrupting the street.



Poor *orientation* or lack of consistent urban design goals can cause each additional building and site to detract from the greater whole. This building provides minimal articulation and no permeability, resulting in a negative pedestrian experience and detracting from the character created by surrounding buildings.

breaking down larger forms into something that is smaller scale, which is perceived as smaller through a clearer identifiable relationship to a smaller component of the form.

- **Rhythm is the recurrence of shapes and forms, which may be regular or complex.** The rhythm becomes apparent when viewing something from a larger perspective. Achieving a rhythm on larger forms can draw attention to smaller scale elements. Rhythms that are easily perceived by pedestrians do a better job of breaking down larger forms in to a smaller scale, which is perceived as smaller by focusing attention on smaller levels of detail.
- **Articulation is how the elements of a form come together to shape exterior space.** Well-articulated forms have good relationships to the spaces around it. However, simply varying or off-setting surfaces of a form do not necessarily mean it is well-articulated. Meaningful and purposeful articulation of buildings that shape important exterior space do a better job of breaking down larger forms into something that is smaller scale, which is perceived as

smaller by drawing attention to the spaces shaped by the form.

Orientation is the placement and directional relationship of the form to spaces around it. Orientation of buildings and sites will indicate to the community the importance of the spaces around the building. Orientation shapes the public realm of the community and when repeated across multiple sites, a pattern begins to emerge. In this regard, when the orientation of buildings and sites is done properly in relation to an urban design goal, each new additional building and site adds to the greater whole. When orientation is not done properly or where no consistent urban design goal exists, each new additional building and site can detract from the greater whole. In the latter case, ordinances that resort to buffers, setbacks and other reactive regulatory strategies usually are a symptom of not having a consistent and broad urban design strategy or not specifying the appropriate forms that will achieve the urban design goals.

Permeability refers to the ease of interaction between the interior of the site or buildings and the streetscape or other civic spaces on the exterior. Permeability can be achieved by a physical connection, as in the placement of doors on street-front buildings, or a perceived connection, as in the visual interest added by

WHAT DO CURRENT REGULATIONS SAY?

While the current regulations do not contain many specific form elements directly, they do contain regulations that either directly or indirectly impact form. For example, while none of the districts currently call for any specific building types or forms, all of them result in a building envelope that results from application of setback and height standards when applied to a lot. However, with these existing standards no specific urban form is achieved because the building form increases in direct proportion to increases in lot size. Additionally, while these types of standards may allow building within these envelopes, they in no way require it. Consider that when a 25 foot setback is required, a building on one site may be built at 25 feet while a building on the adjacent site could be built at any distance beyond 25 feet. This can lead to a disjointed urban form. While this practice may be acceptable in many contexts and zoning districts in the City, stronger attention to urban form is warranted in other districts, specifically the activity centers, higher-density neighborhoods and mixed-density neighborhoods identified in *PlanCheyenne*.

The new Large Commercial Development Standards (Section 17.118) contain a mix of form and style standards. Many provisions in that section discuss how buildings and sites address the street (entryways, articulation of facades with details and pedestrian flow), with the objective of breaking down the scale of large buildings and sites. Other provisions are more style-based (such as material colors or landscape requirements), aimed primarily at aesthetic qualities of the development.



Street-front windows and doorways increase *permeability* of a building, which add to increased activity between the building and the street.

views to internal operations of the building or other active exterior portions of the site such as a porch or courtyard. Increased permeability at the pedestrian scale is a key characteristic of form. Windows, doors and inviting pathways to and from outdoor spaces all add to increased activity between the building or site and the streetscape and add visual interest.

CHEYENNE OPTIONS TO CONSIDER...

Many of the standards in the current regulations impact form issues on sites in a collective and indirect manner. These standards can sometimes lead to unintended consequences or tend to be vague in application or interpretation with respect to the desired characteristics of future development. Opportunities to specify the desired urban form of development include:

- Explore “build-to lines” as an alternative to setbacks, giving predictability to how buildings should relate to the street.
- “Build-to” requirements for plazas, courtyards or other opens spaces are appropriate so that investment in private sites complement investment in the public streetscape.
- Add “permeability” and “articulation” standards for front facades, particularly where buildings are desired or required to be located near the street. Requirements for entrances, entry features, window openings and other façade design approaches can address this. This is particularly important where larger-scale buildings are possible.

WHAT IS A STRUCTURE PAPER?

Structure Papers are a series of discussion papers developed in association with the *PlanCheyenne* implementation project. Each paper identifies a central issue from *PlanCheyenne* and discusses how this issue is impacted by current regulations as well as future amendments to the regulations. In addition to the basic information, citations to other resources for further in-depth information on the topics are also included. These Structure Papers are intended as an aid to project participants as they continue to discuss the merits and details of potential implementation strategies.

- Provide requirements for the relation of un-built portions of sites to streetscapes. Setbacks and/or screening of parking is appropriate in some contexts.
- Identify ways to better match appropriate street types with the adjacent planned development types. A closer link between transportation and land use, or more specifically streetscape design and site design, can improve urban form.
- These issues are particularly important in the mixed-use and high-density residential contexts called for in *PlanCheyenne*.

OTHER RESOURCES...

City Comforts, How to Build an Urban Village, David Sucher, 2003
www.citycomforts.com

Close Encounters with a Building, Jan Gehl, 2004

DESIGN TECHNIQUES FOR SCALE...



Mass is the overall volume of a building. Mass is the roughest scale of how a block face equals its aggregate size.



Proportion is the relationship, size and shape of one part of a form or space to another part of a form or space. In this photo, the proportion of the building breaks the mass into smaller components.



Rhythm is the recurrence of shapes and forms, which may be regular or complex. The windows in this photo display rhythm by reoccurring across the entire mass of the building.



Articulation is how the elements of a form come together to shape exterior space. In this photo, articulation is displayed by the arrangement and variations in the streetscape and building which help form people-oriented spaces.

Scale is the size of a form or space as perceived in relation to something else.

ORIENTATION AND PERMEABILITY...



Orientation is the placement and directional relationship of the form to spaces around it. This building displays good *orientation* to the street, articulation and directional relationships.



This building displays good building *orientation* in that it helps to define the street edge and good *proportions* in that the mass is broken up into a *rhythm* of smaller scale elements. However, this building lacks proper directional relationship and *articulation*.



Permeability refers to the ease of interaction between the interior of the site or buildings and the streetscape or other civic spaces on the exterior. This building displays good *permeability* to the streetscape, which invites customers to view items for sale within the building.



The lack of *permeability* and *articulation* indicate that the street and pedestrian space adjacent are unimportant. The display of the company image and products are internal to the site, causing negative impacts on the streetscape.