

3. APPLYING THE GUIDELINES

The previous chapter explained that various stakeholders have different expectations of what makes streets “good” or even “great”. To appropriately apply the Urban Street Design Guidelines (USDG), the plan/design team must assess the expectations of a variety of stakeholders in order for streets to best reflect their contexts and intended functions. This assessment is also intended to ensure that the resulting streets are “complete” streets – streets that provide for the safety and comfort of all users to the best extent possible.

The purpose of this chapter is to explain how the perspectives of all stakeholders interested in or affected by existing or future streets will be incorporated into a new process for planning and designing streets in Charlotte’s Sphere of Influence. The new process described in this chapter consolidates traditional city planning, urban design, and transportation planning activities into a sequence of fact-finding and decision-making steps.

The application of the new process for planning and designing streets is intended to support the creation of “more streets for more people.” This overriding goal of the USDG will require achieving the following changes:

1. Ensuring that the perspectives of all stakeholders interested or affected by streets are seriously considered during the planning and design process for existing or future streets;
2. Defining a clear sequence of activities to be undertaken by staff, consultants and stakeholders;
3. Remembering that this will be a process that is much more geared toward what we want to happen in the future than just accepting what happened in the past or exists now;
4. Verifying that the inevitable tradeoffs affecting objectives, benefits, costs, and impacts are

well documented so that the recommendations made by staff, consultants or stakeholders are based on understanding the direct effects on specific modes of travel and/or land use intentions; and

5. Always striving to create not only more streets, but also more complete streets that are good for all modes of travel, and even some great streets that are remarkable because of the very effective and favorable ways that the adjacent land uses and transportation functions of those streets support each other.

The process described in this chapter provides a great deal of flexibility to those involved in the decision-making process, to ensure that the resulting streets are appropriately based on the existing and proposed land use and transportation contexts. This flexibility

is intended to foster creative solutions by ensuring that land use planners, engineers, transportation planners and others work together to think through the implications of alternative street designs.

The six-step process shown in figure 3.1 and described below will primarily be applied to planning and designing the “non-local” street types – Main Streets, Avenues, Boulevards, and Parkways. In some cases, public projects that retrofit existing Local Streets may require the use of the six-step process and, when area plans are being prepared, both non-local and Local Streets will need to be specified.

The area planning process provides one of the best opportunities to integrate the planned land use and transportation characteristics on an area-wide basis, and the six-step process gives the framework for that integration. Even in the case of area plans, though, the level of specification will vary between Non-Local and Local Streets. Assuming that there is enough information available

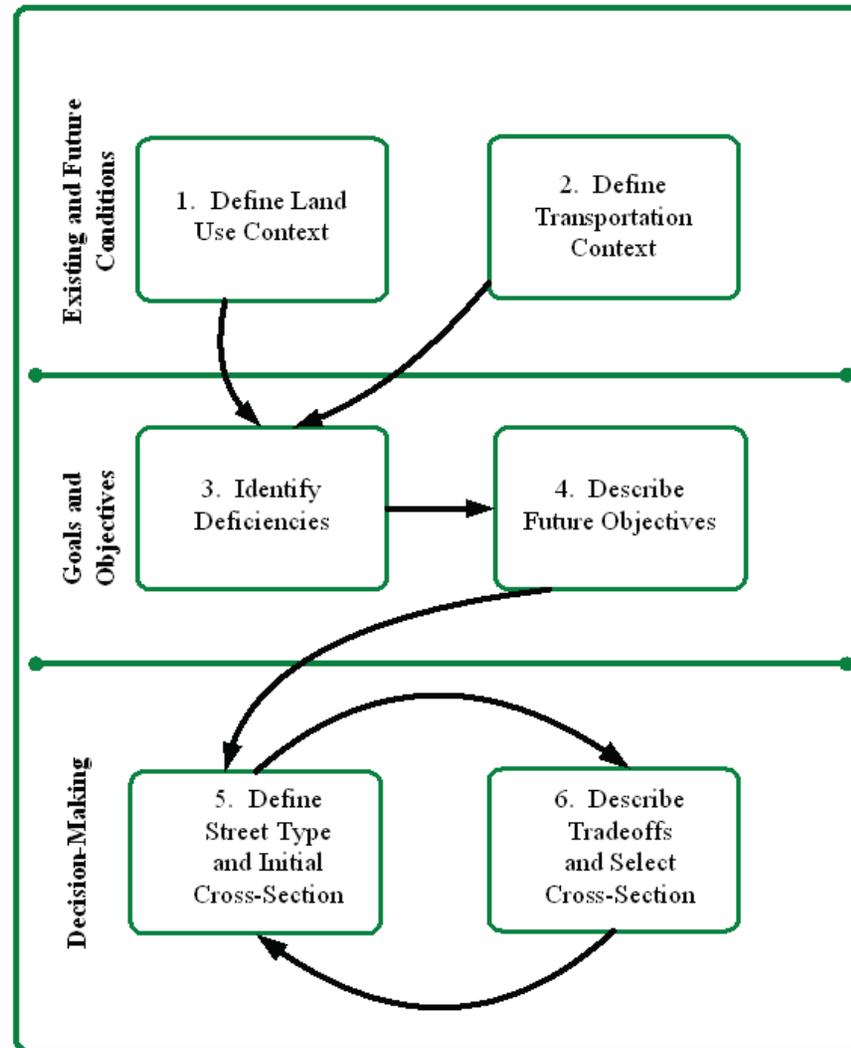


Figure 3.1. The Six-Step process for Applying Charlotte's Urban Street Design Guidelines.

about future land use context and future transportation context, the planning team would specify the actual cross-sections for all non-local streets in the area plan. For the Local Streets, the planning team would specify the spacing of the emerging Local Street network, and the specific cross-sections would be applied based on the adjacent land uses, as the streets are constructed.

For the most part, however, new Local Streets will be built through the land development process and the major design decision will be to select the appropriate pre-defined cross-section, as described in Chapter 4, rather than to apply the six-step process. Conversely, retrofitting a non-local street with limited right-of-way through an existing neighborhood will be more complicated and require more of a tradeoff analysis.

Applying the Guidelines: Six Steps

The remainder of this chapter defines a six-step process for developing the most appropriate design for streets in a

variety of contexts. The following three assumptions are built into the six-step process:

1. The process will involve a variety of stakeholders. The number of stakeholders and discussions will vary, depending on the magnitude and consequences of the street(s) to be designed.
2. The resulting street will be as “complete” a street as possible, in order to meet the multi-modal objectives defined in the Transportation Action Plan.
3. The steps in the decision-making process will be well-documented. The documentation will clearly describe the major tradeoffs made among competing design elements, how those were discussed and weighed against each other, and the preliminary and final outcomes. Thorough documentation will ensure that all stakeholders’ perspectives are adequately considered in the final design.

Figure 3.1 (previous page) shows the assessment steps to be included in applying the USDG. Each of the six steps is defined in more detail in the remainder of the chapter. **It is important to note that the steps described below can be applied either to a single street or to a collection of streets in an area (such as when an area plan is being developed).** In either case, the first four steps should take an area-wide approach to gathering and assessing the information required for each step, since even individual street segments do not exist or function in isolation from the surrounding street network and land uses.

Step 1: Define the Existing and Future Land Use and Urban Design Context

The classification and ultimate design of any street should reflect both the existing and expected future land use contexts. These existing and future contexts should be considered from the broadest, area-wide perspective down to the details of the immediately adjacent land uses. A street is likely to be classified and/or

designed differently if it is in an area slated for higher density development, such as a transit station area, versus in a neighborhood of single family houses, where very limited development changes are anticipated.

The following questions regarding the intensity and arrangement of existing and future land uses in the area surrounding the street to be designed should be addressed by the plan/design team:

- What does the area look like today?
- What are today's land use mixtures and densities?
- What are the typical building types, their scale, setbacks, urban design characteristics, relation to street, any special amenities, etc.?
- Are there any particular development pressures on the area (the nature of this may vary according to whether the area is a "greenfield" versus an infill area and this type of information is particularly important in the absence of an area plan)? What,



The existing, auto-oriented transportation context surrounding the intersection of South Boulevard and Scaleybark Road. The future transportation context will change to include light rail transit and more pedestrian features to support a transit-oriented environment.

- if anything, can be gleaned from permit data, for example, about the nature of the emerging land use context?
- What are the "functions" and the general circulation framework of the neighborhood and adjacent areas?
- Is there a detailed plan for the area?
- If so, what does the adopted, detailed plan envision for the future of the area?
- Does the plan make specific recommendations regarding densities, setbacks, urban design, etc.?

- Are there any other adopted development policies for the area?
- If so, what do those policies imply for the area?

Step 2: Define the Existing and Future Transportation Context

The transportation assessment should consider both the existing and expected future conditions of the transportation network adjacent to or affecting the street to be designed. The recommended design should reflect the entire transportation context (function, multimodal features, form), rather than that related strictly to capacity on a given segment.

The following questions regarding existing and future transportation conditions should be addressed by the plan/design team:

- What is the character of the existing street? How does the street currently relate to the adjacent land uses?
- How does the street currently function? What are the daily and hourly traffic volumes? Operating

and posted speeds? What is the level-of-service (LOS) for pedestrians? Cyclists? Motorists?

- What are the current design features, including number of lanes, sidewalk availability, bicycle facilities, traffic control features, street trees, etc.?
- What, if any, transit services are provided? Where are the transit stops?
- What is the relationship between the street segment being analyzed and the surrounding network

(streets, sidewalks, transit, and bicycle connections)?

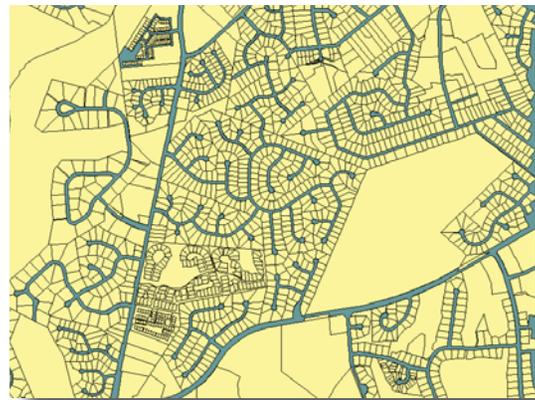
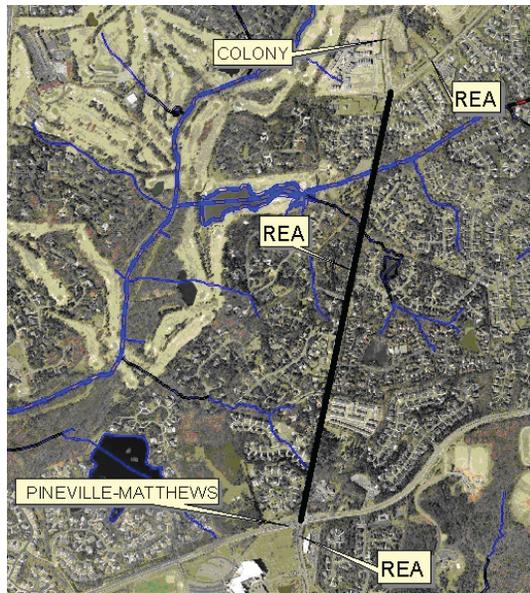
- Are there any programmed or planned transportation projects in the area that would affect the street segment?
- Are there any other adopted transportation policies that would affect the classification of the street segment?

Step 3: Identify Deficiencies

Once the existing and future land use and transportation contexts are clearly



In these examples, there are significant gaps in the network along these streets. Note the worn footpaths and the fact that the bus stop on the right has no sidewalk to provide easy pedestrian access.



Left and Above: The street network surrounding this segment of Rea Road, in south Charlotte, is very disconnected, which has ramifications for motorists, bicyclists, and pedestrians.

defined and understood from an area-wide perspective, the plan/design team should be able to identify and describe any deficiencies that could/should be addressed by the new or modified street. This step should consider all modes and the relationship between the transportation and the land use contexts.

From the information provided in the first two steps, “deficiencies” might include, but are not limited to:

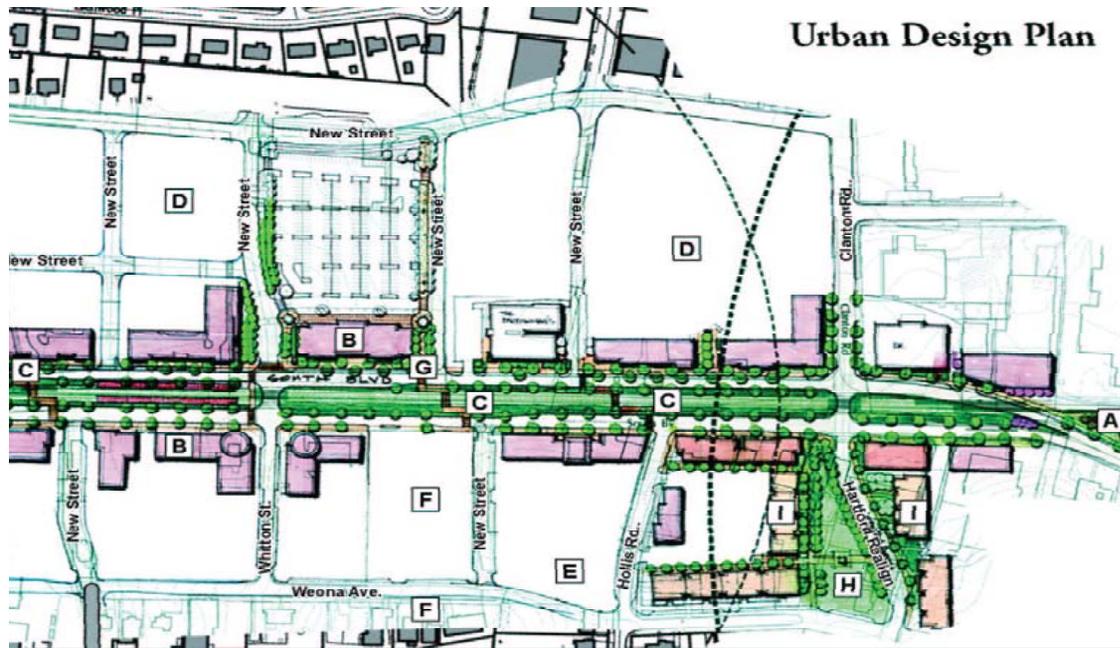
- Gaps in the bicycle or pedestrian network near or along the street segment;
- Gaps in the bicycle or pedestrian network in the area (which may increase the need for facilities on the segment, because of the lack of alternative routes);
- Insufficient pedestrian or bicycle facilities (in poor repair, poorly lighted, or not well buffered from traffic, e.g.);

- Gaps in the overall street network (this includes the amount of connectivity in the area, as well as any obvious capacity issues on other segments in the area);
- Inconsistencies between the amount or type of transit service provided along the street segment and the types of facilities and/or land uses adjacent to the street;
- Inconsistencies between the existing land uses and the features of the existing or planned street network.

Step 4: Describe Future Objectives

This step synthesizes the information from the previous steps into defined objectives for the street project. The objectives could be derived from the plans and/or policies for the area around the street, as well as from the previously identified list of deficiencies. The objectives will form the basis for the street classification and design.

In addition to the general intent of providing complete streets, the following

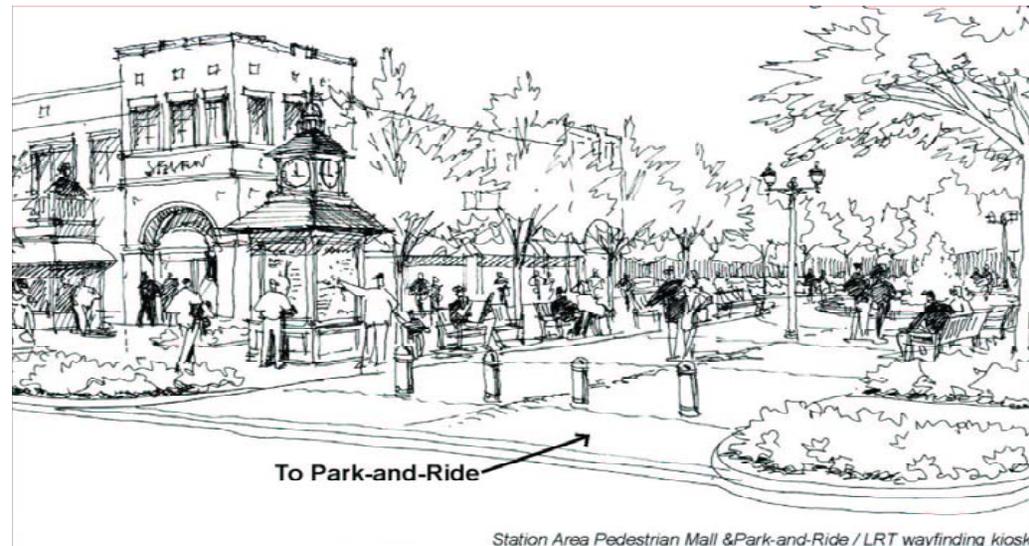


Above and Below: More detailed portions of the station area plan help to define the overall objectives for the area and its transportation network.

Above: A future plan for the Scaley-bark Station Area incorporates the light rail transit line, the street network configuration, pedestrian connections, and land use and urban design into a transit-oriented area.

issues should be considered in defining the specific objectives:

- What existing policies might or should influence the specific objectives for the street?

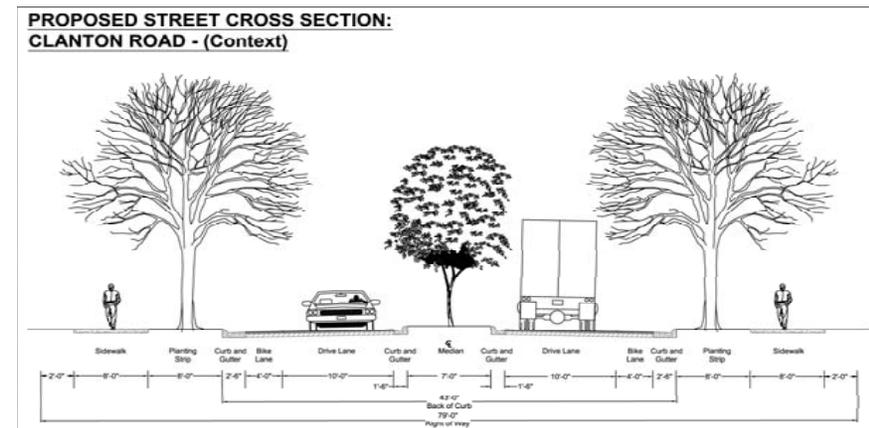
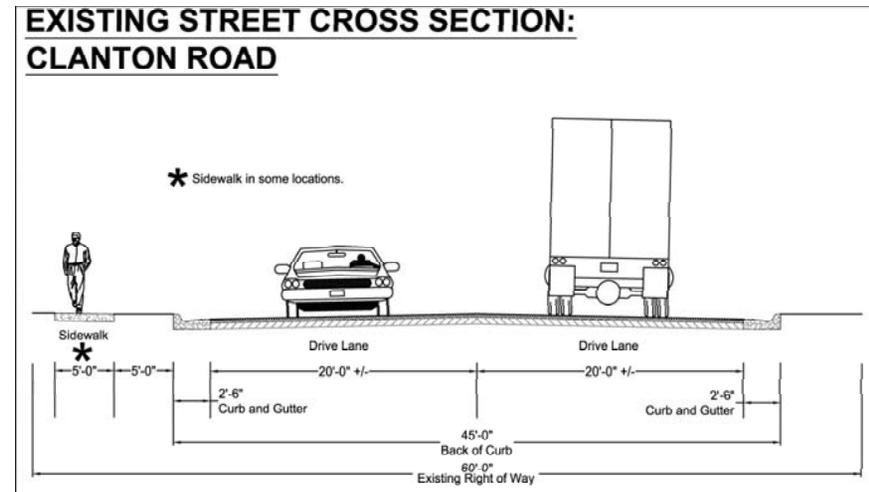


Station Area Pedestrian Mall & Park-and-Ride / LRT wayfinding kiosk

- What conditions are expected to stay the same (or, more importantly, what conditions should stay the same)?
- Would the community and the stakeholders like the street and the neighborhood to stay the same or to change?
- Why and how would the community and the stakeholders like the street and the neighborhood to change?
- Given this, what conditions are likely to change as a result of classifying the street (exactly how will the street classification and design support the stakeholders' expectations)?

Step 5: Recommend Street Classification and Test Initial Cross-Section

At this point, the plan/design team recommends the appropriate USDG street typology (or typologies, if several streets are being analyzed), based on the previous steps. The rationale behind the classification should be



The bottom drawing shows a possible cross-section for a portion of a street in a station area. The cross-section is significantly different from the existing cross-section shown at the top, and is intended to reflect the emerging context of transit and pedestrian-oriented areas along light rail lines.

documented. **This step should also include a recommendation for any necessary adjustments to the land use plan/policy and/or transportation plan for that area.** Since the street type and the ultimate design are defined, in part, according to the land use context, subsequent land use decisions should reflect and support the agreed-upon street type and design.

The initial cross-section should be defined based on the recommended street typology, keeping in mind that some typologies allow more than one option. Once the preferred option is identified, the ideal cross-section will typically include the design features with their preferred dimensions specified for that street type.

The initial cross-section should then be tested against the land use and transportation contexts and the defined objectives for the street project. At this point, any constraints to the provision of the initial, preferred cross-section should also be identified, including:



Here, the rolling hills, existing stands of mature trees, and creek crossings will all have an impact on the final cross-section chosen.

- Lack of right-of way,
- Existing structures,
- Existing trees or other environmental features,
- Topography, and
- Location and number of driveways.

This step should clearly identify which constraints may prohibit the use or require refinement of the initially defined cross-section.

Step 6: Describe Tradeoffs and Select Cross-Section

If the initial, “preferred” cross-section can be applied, then this step is easy: the initial cross-section is the recommended cross-section. In many cases, though, the initial cross-section will need to be refined to better address the land use and transportation objectives, given the constraints identified in Step 5. Sometimes, the technical team will develop more than one alternative design. **In that case, these multiple alternatives should be presented to the stakeholders.**

Any refinements to the initial cross-section (or alternatives) should result from a thoughtful consideration of tradeoffs among competing uses of the existing or future public right-of-way. The tradeoffs should be related to the requirements of each group of stakeholders and the variety of design elements that can best accommodate those requirements. The matrix at the end of Chapter 2 provides a listing of the general expectations of

various stakeholders about streets and the elements that might achieve those expectations. *At the least*, the requirements and elements listed in that matrix should be considered in any tradeoff discussion, though that list should not be considered comprehensive.

The specific method of evaluating the tradeoffs is left open to the plan/design team, as long as the method/discussion/analysis is documented. All perspectives should receive equal consideration and accountability in the plan/design process. Proper documentation will also generate information useful for future street design projects that might have similar characteristics, objectives, or constraints.

Once the tradeoffs are evaluated, the team should be able to develop a refined cross-section and suggested design treatments. The culmination of all of the previous steps, including any additional stakeholder comments, should provide sufficient rationale to select the design alternative that best matches the context and future expectations for the street project.

Final Comments on the Six Steps

The steps outlined in this chapter suggest that there is a linear process leading to an ideal solution. Realistically, in some instances the process may not follow the exact sequence described above. Some information may not be available or even be applicable for some conditions. **The intent, though, is to ensure that the existing and future contexts are given adequate consideration, that any related plans are modified to reflect the outcome, and that all perspectives are given equal consideration in the process.**

The same approach described here for large-scale street projects can be applied to smaller-scale or short-term projects or processes. In those cases, an “abbreviated” version of the six steps can be used to reach decisions that will necessarily involve a shorter timeframe or fewer stakeholders, but for which it is still important to consider all perspectives and document any necessary tradeoffs. The intent is to

apply this thought process to the design of our emerging complete street network, whether through the full six-step process, or through the abbreviated version.