tool kit

Transitions between Urban and Non-Urban Contexts

Along Strategic Regional Thoroughfares

Purpose

Strategic regional thoroughfares in the Atlanta Region traverse a combination of urban, suburban, and rural contexts as examined in detail in the SRTP Management and Design Guidelines. The entering and leaving of various contexts calls for a "context sensitive design" that acknowledges changes in speed, land uses, functional emphasis, and associated transportation needs along the way.

Thoroughfare design should take into account the various users that occupy or have expectations of the street. Depending on the context, this group may include motorists, pedestrians, transit operators, bicyclists, and people living, working and accessing the various uses along the corridor. Depending on the context in which businesses or residential uses are located, they will demand different results from the street. These demands should influence design.

This toolkit provides guidance on creating effective and safe transitions along the Atlanta Region's strategic regional thoroughfares.

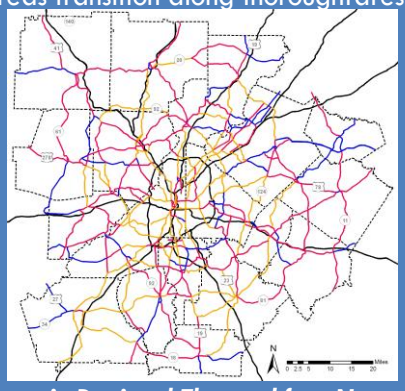
Thoroughfares can quickly transition from rural to urbanized areas such as the one above and those common in counties and small cities in the Atlanta Region.

CONTEXT How to Define It

Encompasses a broad spectrum of environmental, social, economic and historical aspects of a community and its people. All of these aspects are important in developing [Context Sensitive Solutions] CSS. Thus, context can be the built or is part of the natural environment. The built environment consists of properties and activities within and adjacent to the public right-of-way and the thoroughfare itself, with surroundings that contribute to characteristics that define the context zone. Buildings, landscaping, land-use mix, site access and public and semi-public open spaces are the primary shaping elements of the context. The natural environment includes features such as water or topography. In both environments, context can reflect historic or other protected resources. An urban thoroughfare will often pass through both built and natural environments as it changes from one context zone to another.

- ITE. 2006. Context Sensitive Solutions in Designing Major Urban Thoroughfares for Walkable Communities.

The unique context in each community will call for coordination among jurisdictions and neighborhoods as areas transition along thoroughfares.



Strategic Regional Thoroughfare Network

Design Techniques for Transitional Areas

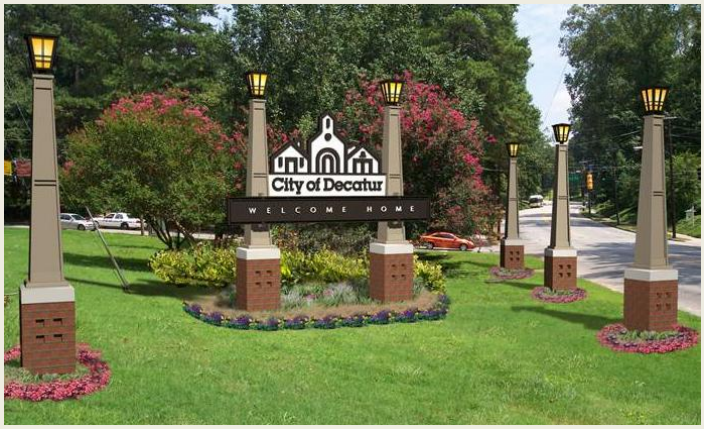
A key element for designing transitional areas between urban and non-urban contexts is striking the right balance between mobility and access. Factors that will require additional attention as the context changes include safety, speed, noise, and likely users.

In transitional segments of a thoroughfare, the main purpose of the area becomes "fuzzy" and requires close consideration of both the existing and future land uses planned adjacent to the thoroughfare. Oftentimes the line dividing incorporated and unincorporated areas of a county will delineate the change in thoroughfare treatment, which can be very abrupt. Inter-jurisdictional coordination can help ensure that such abrupt changes do not occur. Better designed transitions should help resolve these issues and signal a change in context to all thoroughfare users.

Changes in Roadway Width

The Institute of Transportation Engineers (ITE) recommends use of the *Manual on Uniform Traffic Control Devices* (*MUTCD*) to determine the appropriate length and design of tapers in areas where the width and geometry speed of a corridor changes. The following additional guidelines are provided by ITE:

- Ensure the entire transition length is visible to the driver.
- Transitions should be accompanied by appropriate warning signs (refer to *MUTCD*).
- Transitions should occur on a tangent section of roadway, avoiding areas with horizontal and vertical sight distance constraints.
- Diverters and transition design described above is unnecessary when roadways widen or lanes are added. In these cases, a transition taper of 10:1 is sufficient. Speed change lanes at intersections (transitions to left- or right-turn lanes) usually require a shorter taper and deceleration distance. The American Association of State Highway and Transportation Officials (AASHTO) recommends 100 ft. for single turn lanes and 150 ft.



City of Decatur Gateway signage alerts drivers of upcoming urbanized area – leading to reduced speeds.

Changes in Lane Design

When forecasted Average Annual Daily Travel (AADT) meets certain thresholds, the following design transitions may be required in order to meet the specific needs of an area as it changes from a non-urban to urban context:

- Transition from a 2-lane rural cross section to 4 or 5 Lane with a 2-way turn lane
- Transition from a 4-lane median-divided facility to 5-lane with Continuous 2-way turn lane
- Reduction from 40 ft. median to 16 ft. median
- *Use of deceleration lanes for driveways*

Specific guidance for designing such transitions is provided by FHWA's *MUTCD* and ASSHTO's *A Policy on the Geometric Design of Highways and Streets*. When planning such transitions, signage that alerts drivers to the following changes will contribute to a safer thoroughfare environment:

- Narrowing of travel lanes
- Increase in the number of lanes
- Change from a flush to raised median

Gateways and Other Signage

Gateways can provide an important visual clue to drivers that they are entering an urban environment. Welcome signs provide immediate notice to the driver that they should be on the look-out for urban characteristics, such as more dense development, grid street networks, and associated elements, such as pedestrians, bicyclists, etc. Coordination of gateway signage with speed limits will help change motorist behavior as they transition between contexts. Gateway signage should be coordinated with speed limit signs and other signs that signal the possible presence of children at play, pedestrians, or in transitions to rural contexts, deer or other animals.

Transition Speed Zone

Avoid large, abrupt reductions in the speed limit by providing two or more speed limit reductions.

Visual Cues

Visual cues help cure the motorist that a change in context is coming. Landscaping, curbs, on-street parking, change in street light standards, thematic street furniture, and change in architectural elements can facilitate this acknowledgement.

The land use context will influence what types of transportation elements are appropriate along a thoroughfare. Appropriate design cues in transitional areas are important to facilitating a safe environment for all thoroughfare users.

Sidewalk amenity zones like the one above provide seating, lighting, and signage that meet pedestrian needs.

Land Use and Transportation Connection

As thoroughfares transition from non-urban to urban contexts, as described by the SRTP design guidelines, changes to access management standards and overall development regulations will be beneficial to smoothly connecting the disparate contexts. Appropriate site design requirements that can accommodate these changing areas include the following:

- Walkways to parking areas
- Sidewalks between buildings and connecting to the street
- Operating front doors
- Wider sidewalks (8' minimum in high activity areas)
- Sidewalk amenity zones including items such as streetlights and banners
- Higher quality street furnishings

- On-street parking
- Landscaping and street trees

These elements can be accommodated in various ways. One tactic is for communities to develop overlay districts for strategic thoroughfares, providing a special zone for transitional areas with appropriate design standards to achieve transition area objectives.

Implementation

Oftentimes, investment in these items is a cross-disciplinary effort between community development and transportation departments that also includes a public-private partnership investment, such as that of a self-taxing Community Improvement District. Public-private partnership funding for design and implementation in these areas should also be considered.

Resources

SRTP Management and Design Guidelines. ARC.
A variety of related design guidelines for strategic regional thoroughfares.

www.ContextSensistiveSolutions.org
A variety of appropriate design controls for various contexts.

Manual on Uniform Traffic Control Devices. FHWA.
A Policy on Geometric Design of Highways and Streets.

A Policy on the Geometric Design of Highways and Streets. Fifth Addition. ASSHTO. *(The Green Book)*
General set of road design guidelines.

Street transition from a low volume, urban context to a rural environment