• Norm Steinman, AICP
  – Manager, Charlotte DOT Planning
  and Design Division
Purpose

- Explain Why Charlotte Needs Complete Streets
- Discuss How the USDG Are Intended to Create Complete Streets
- Describe Some of the Plans and Projects Completed with the USDG
- Identify Conclusions and Recommendations
What Are Incomplete Streets?

- Prevent/limit travel by pedestrians and bicyclists
  - Physical deficiencies
  - Perceived contraints

- Provide only short-term capacity for motorists

- Are not valued positively
Why Does Charlotte Need Complete Streets?

- Existing Deficiencies
- Public Opinion
- Growth
Existing Deficiencies

- ~45% thoroughfares - no sidewalks
- ~75% local streets - no sidewalks
- ~50% intersections - poor pedestrian level-of-service
- ~95% intersections - poor bicycle level-of-service
- ~20% thoroughfares - highly congested
Do you believe streets should be designed to accommodate all users including motorists, pedestrians, bicyclists, and transit users?

- Yes: 80%
- No: 18%
- Don't know: 2%
“They Are Coming”

- Charlotte’s 30 year population growth equals:
  - St. Louis (348,000)
  - Pittsburgh (335,000)
  - Cincinnati (331,000)
Transportation Action Plan (TAP) and Urban Street Design Guidelines (USDG)

- TAP is Charlotte’s long-range comprehensive transportation plan
- TAP describes policies, projects and programs
- USDG are applied to design streets and blocks
How the TAP and USDG Work Together

- TAP Goal 2 – provide more and better travel choices

- “More” (quantity) specified in TAP policies and TAP programs

- “Better” (quality) defined by the USDG
The City will promote context-sensitive streets (i.e., by designing transportation projects within the context of adjacent land uses, to improve safety and neighborhood livability, promote transportation choices and meet land use objectives), consistent with the City’s Urban Street Design Guidelines.
Key Content of the USDG

- (17) policy statements
- (6-step) planning and design process
- (land-use based) street options
- design requirements and expectations (dimensions, tradeoffs)
Intent of USDG Policy Statements

- Apply street classifications and design elements throughout Charlotte and ETJ
- Apply 6-step process
- Apply USDG to publicly and privately built streets
- Mutually reinforce land use and transportation decisions
Intent of USDG Policy Statements (cont.)

- Create better network for pedestrians, bicyclists, and neighborhood residents (require appropriate block lengths and creek crossing intervals)
- Expand tree canopy
- Design intersections for all modes
- Include traffic calming
By adopting the USDG, the **City Council declares** that it is the **policy** of the **City** of Charlotte to:

**#1:** Apply the USDG to the planning and design of new and modified streets in Charlotte and its Sphere, including State-maintained surface streets.
State and City Maintained Streets in Charlotte

### City-Maintained

<table>
<thead>
<tr>
<th>Classification</th>
<th>Total Miles</th>
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<tbody>
<tr>
<td>Thoroughfares</td>
<td>250</td>
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<tr>
<td>Local Streets</td>
<td>2,142</td>
</tr>
<tr>
<td>Total</td>
<td>2,392</td>
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</tbody>
</table>

### State-Maintained (including ETJ)

<table>
<thead>
<tr>
<th>Classification</th>
<th>Total Miles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thoroughfares</td>
<td>362</td>
</tr>
<tr>
<td>Local Streets</td>
<td>443</td>
</tr>
<tr>
<td>Total</td>
<td>805</td>
</tr>
</tbody>
</table>
The Six-Step Process

1. Define Land Use Context
2. Define Transportation Context
3. Identify Deficiencies
4. Describe Future Objectives
5. Define Street Type and Initial Cross-Section
6. Describe Tradeoffs and Select Cross-Section
Example of Questions in 6-Step Process

Step 2: Existing and Future Transportation

- Daily and hourly traffic volumes?
- Posted and operating speeds?
- Bicycle lanes or routes?
- Bus stops or transit services?
- Sidewalks and crossings?
- Relationship to street network?
- Changes in connectivity and capacity?
USDG - A Variety of Street Types

Land Uses and Street Designs

Pedestrian-Oriented

Auto-Oriented

Main Street  Avenue  Boulevard  Parkway

Local Street
Context-Based “Not Prescriptive” Design

Avenue
For dimensional information refer to specific guidelines for each zone (development, pedestrian, green, bicycle, parking, motor vehicle)
Applications of the USDG

- CIP projects
  - Major Roadways
  - Farm-to-Market Roads
  - Intersections
  - Sidewalks
  - Neighborhood Improvement
  - Connectivity
  - Traffic Calming

- Area plans

- Rezonings
<table>
<thead>
<tr>
<th>Completed</th>
<th>Since 2005</th>
<th>Anticipated /Underway</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>Thoroughfares rebuilt/extended</td>
<td>17</td>
</tr>
<tr>
<td>19</td>
<td>Streetscapes and road-conversions</td>
<td>8</td>
</tr>
<tr>
<td>11</td>
<td>Intersections</td>
<td>8</td>
</tr>
<tr>
<td>37</td>
<td>Sidewalks</td>
<td>66</td>
</tr>
<tr>
<td>9</td>
<td>Area Plans</td>
<td>6</td>
</tr>
<tr>
<td>171</td>
<td>Rezonings</td>
<td></td>
</tr>
</tbody>
</table>
Tuckaseegee Rd.
Kenilworth Avenue & Romany Road
East Boulevard
West Morehead Street
Stonewall Street
Charlottetowne Avenue
Rezonings
Converting USDG Policies Into Ordinance

- Convert USDG policies into regulations
- Provide both predictability and flexibility
- Apply experiences-to-date to prepare ordinance revisions
Preferred and Maximum Block Lengths

Table 4.1  Block Lengths for Local Streets

<table>
<thead>
<tr>
<th>Land Use/Location</th>
<th>Preferred or Typical Block Lengths for Local Streets</th>
<th>Maximum Block Length for Local Streets</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transit Station Areas(^1)</td>
<td>400'</td>
<td>600'</td>
</tr>
<tr>
<td>Centers(^1)</td>
<td>500'</td>
<td>650'</td>
</tr>
<tr>
<td>Corridors(^1)</td>
<td>600'</td>
<td>650'</td>
</tr>
<tr>
<td>Non-Residential Uses(^1,2)</td>
<td>500'</td>
<td>650'</td>
</tr>
<tr>
<td>Industrial</td>
<td>600'</td>
<td>1,000'</td>
</tr>
<tr>
<td>Residential ≥ 5 dua (gross) in Wedges</td>
<td>600'</td>
<td>650'</td>
</tr>
<tr>
<td>Residential &lt; 5 dua (gross) in Wedges</td>
<td>600'</td>
<td>800'</td>
</tr>
</tbody>
</table>
Basic rules for street network design are the same for all land use types.

Street network design starts from the outside-in.

New street network is built by first extending existing adjacent streets into the site.

1000’ is the current maximum block length.

Proposed language calls for maximum block lengths ranging from 600’ to 1000.’
(1) Block Length Averaging

Typical Residential Block

- Long Block Face
  - 1000’ is current block length maximum
  - Proposed maximum is either 800’ or 650’ based on density.

- Short Block Face

Residential Network of Blocks

- Average of long block faces cannot exceed maximum (800’ or 650’)
- Individual block faces cannot exceed 1000’.
(2) Block Length Exemptions

**Exemptions for Maximum Block Lengths**

<table>
<thead>
<tr>
<th>Existing Provisions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Physical barriers (railroads, freeways, gas pipelines)</td>
</tr>
<tr>
<td>2) Natural barriers (slopes, creeks, wetlands, floodplains)</td>
</tr>
<tr>
<td>3) Industrial-to-residential land use relationship</td>
</tr>
<tr>
<td>4) Property shape</td>
</tr>
<tr>
<td>5) Right-of-way or sight distance limitations</td>
</tr>
<tr>
<td>6) Property accessibility</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>New</th>
</tr>
</thead>
<tbody>
<tr>
<td>7) Manufacturing or security requirements</td>
</tr>
<tr>
<td>8) Alignment with existing streets to create intersections</td>
</tr>
</tbody>
</table>
Private Streets Compared to Local Public Streets:

**Similarities**
- Provides for 2-way vehicular traffic at low speeds
- Has sidewalks and planting strips on each side of the street

**Differences**
- No right-of-way required
- No setbacks required
- Angle parking is allowed
- Tighter curves and steeper grades allowed
- Private control of operations
# History of the USDG

<table>
<thead>
<tr>
<th>Year</th>
<th>Events</th>
</tr>
</thead>
<tbody>
<tr>
<td>2002</td>
<td>Work begins</td>
</tr>
<tr>
<td>2003</td>
<td>1st public review draft</td>
</tr>
<tr>
<td>2004</td>
<td>Stakeholder group review</td>
</tr>
<tr>
<td>2005</td>
<td>Policy alignment and cost study</td>
</tr>
<tr>
<td>2006</td>
<td>1st application for CIP projects</td>
</tr>
<tr>
<td>2007</td>
<td>1st mention in area plans</td>
</tr>
<tr>
<td>2008</td>
<td>USDG adopted by Council</td>
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<tr>
<td>2009</td>
<td>Changes to ordinance first discussed</td>
</tr>
<tr>
<td>2010</td>
<td>Ordinance revisions adopted by Council</td>
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</tbody>
</table>
Charlotte’s Urban Street Design Guidelines

For further information, contact:

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