Complete Streets Case Study: Developing Local Consensus

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Focus for This Session

1. Define “Complete Streets”
2. City of Woodbury Case Study—Implementing Complete Streets Principles
3. Proposed State Aid Rule Change
4. Questions/Discussion
What are Complete Streets?

- MnDOT: Complete Streets are
  - Designed and operated to enable safe access for all users
  - Pedestrians, bicyclists, motorists and bus riders of all ages and abilities can move along and across the street
  - Goal of CS policy is to develop a balanced system that integrates all modes and users through planning
  - A refinement is that it does not mean “all modes on all roads.”
How Do We Actually Design Complete Streets? (Hint: It’s not easy)

- Need a “big picture” approach, if not all modes on all roads
- Address variety of expectations of the transportation system
  - Address potential conflicts and priorities among users
  - Address conflicts among goals for system: safety, mobility, access
  - Address related issues: corridor and pavement width, impacts to sustainability, livability and adjacent land uses
  - Keep maintenance and budget issues in mind
- Conclusion: Need an interdisciplinary approach
City of Woodbury Identified Need for Complete Streets Planning

- Standard design process was resulting in debates on goals and criteria with each project
- Concerns about corridor width and impacts on land uses, neighborhoods and pedestrians
- Need to involve several city departments
- Residents want the City to address multiple values and needs
- Sustainability a priority in Comprehensive Plan
Some Values are Changing

- Changing views of streets—not just vehicle transportation (but still very important)
- More focus on environmental impacts and sustainability
- Engineers have less "authority" to design corridors—more values must be incorporated.
First Step: Create Design Principles Task Force

- City Administrator
- Engineering
- Public Works & Maintenance
- Planning & Environment
- Community Development
- Public Safety
- Sustainability Coordinator
- Facilitator

It was a challenge to get consensus among all of these groups on how to design roadway corridors, but critical to achieve a solution that would be implemented.
Goal: Develop consensus on design templates and policies for each of the roadway corridor types expected in Woodbury by 2030— including drive lanes, medians, shoulders, bike lanes, trails and sidewalks, turn lanes, transit lanes, boulevards, utilities, landscaping.

Corridors would be multimodal and balance mobility, safety, sustainability and livability.

Use Context Sensitive Approach and Complete Streets philosophy.
There were challenges and conflicts:

- **Key goal to minimize width of corridors** (to minimize land use and environmental impacts; and improve pedestrian experience)
- Vs.
- **Desire to accommodate multiple users and modes**– tending to increase corridor width

- **Desire for green space**
  - Vs.
  - **Is this good quality green space?** How much maintenance?
More challenges:

- Which modes on which corridors?
  - Where do commuter bikes belong? Recreational?
  - What about transit in the future?
- Maintenance issues on narrower roadways
- How to implement changes on existing streets
- City standards vs. County standards
How did we develop consensus?

- Everyone around the table
- Lots of discussion
- Active, engaged listening to all viewpoints (i.e. managing the Administrator!)
- Developed agreement on community values and goals, then transportation values and goals
- Built from points of agreement
- Give and take: everyone did not agree on every element of the templates, but got enough of what they wanted to support the whole package
- Cookies
Developed 12 Design Templates—based on corridor function and traffic volume

Recommended a Design Process
- The templates will be the starting point for the design of new roadways or redesign of existing roadways
- Changes from the templates will be viewed as a “variance”, and will require a rationale
- Key point: Choose the smallest corridor needed to meet functional requirements and projected volumes as the starting point for design.
# Roadway Templates—Basics

<table>
<thead>
<tr>
<th>Template</th>
<th>Description</th>
<th>Right-of-way</th>
<th>No. of Lanes</th>
<th>Target Speed</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1</td>
<td>Highest traffic volume; commercial areas near freeways</td>
<td>180</td>
<td>6</td>
<td>45 mph</td>
</tr>
<tr>
<td>B1</td>
<td>High volume;</td>
<td>150</td>
<td>4</td>
<td>40 mph</td>
</tr>
<tr>
<td>C1</td>
<td>Medium volume</td>
<td>120</td>
<td>3 (center turn lane)</td>
<td>35–40 mph</td>
</tr>
<tr>
<td>D1</td>
<td>Neighborhood collector</td>
<td>88</td>
<td>2</td>
<td>30–35 mph</td>
</tr>
<tr>
<td>E1</td>
<td>Commercial land use corridor</td>
<td>112</td>
<td>3</td>
<td>30 mph</td>
</tr>
<tr>
<td>STL–8</td>
<td>Residential street</td>
<td>60</td>
<td>2</td>
<td>&lt;30 mph</td>
</tr>
</tbody>
</table>
Template Examples

B1 Corridor – High Volume

Note: public utilities generally to be installed as follows:

- Water: under roadside edge of pathway
- Sanitary sewer: under roadside edge of other pathway
- Storm sewer: along curb line

Private utilities under trails and into 5’ utilities area.

- High volume corridor
- On-street bicycle lanes to be evaluated in preliminary engineering
- 150 feet right-of-way
This 3-lane corridor will be used in the future rather than 4-lane undivided roadway design.
D1 is a neighborhood collector—New Type

- Improve connectivity among neighborhoods
- Intra-neighborhood connections for bicycles—shared lanes in street for commuters; trails for recreational bikes
Other Key Task Force Recommendations

- Width for new and replacement residential roadways will be 28 feet
- Sidewalks, boulevards, and landscaping will be standard elements of all roadway corridor designs
- Adopted landscaping standards and design templates—Parks Dept and Maintenance input
- City will evaluate options to use roundabouts at intersections early in the design process
Existing Roadways
- The templates will be the starting point for design
- The City will identify corridors that are high priorities for bike lanes and routes, to create a connected system. Lanes may be incorporated into other existing roadway corridors as resources allow
- Design decisions will be made on a case-by-case basis when adequate right of way does not exist
Corridor widths will be capped at the right-of-way sizes recommended by the Task Force

- May affect mobility on some roadways in the future, but need to balance mobility with sustainability and livability goals

- Will encourage use of other modes

- Hold engineers “harmless” (well, maybe)
Lake Road Project—Existing Roadway:

- First application was rehab and intersection upgrade
- Found difficult to include all components in a retrofit (insufficient right of way to add trail)
- Found some components less critical in retrofit of an internal street segment. (curb removal to gain bike lane)

**BUT** debate was centered around cost and feasibility
*NOT about goals, objectives and conflicting perspectives*
Design of new roadways in Expansion Areas (4,000 acres) will use the templates and Task Force recommendations

New roadways are candidates for Roundabout corridors

The City Corridor templates are not equivalent to Washington County sections; we use our templates as a basis for negotiations with the county when we talk about county road improvements.
Conclusions

The Task Force process to develop “complete streets” templates had benefits:

- Engineers and Public Works don’t have to defend reasons why to build a road in a particular way with each project
- The standards have been set with all of the interests, and now it is a design problem, not a philosophical battle with each roadway corridor.
- Overall, the City will build narrower corridors and serve more interests
Conclusions Continued

- With new “Complete Streets” design standards slated for State Aid it will be highly desirable for cities to settle internal philosophical differences holistically versus case by case.
- A long-range plan for multi-mode corridors is a possible outcome from such a discussion.
- Some flexibility is needed to deal with retrofits and existing corridors…Still not “all modes on all roads”.

The Complete Streets Committee was charged with adding flexibility to the State Aid Rules 8820, that would assist in the design of on-road bicycle accommodations on state aid routes.
Committee Members

- Monica Beeman, St. Paul
- Don Ellwood & Don Pflaum, Minneapolis
- Julie Dresel, North Branch
- Dan Coyle, Kimley–Horn
- Cindy Voight, Duluth
- Mark Statz, Bonestroo
- Shelly Pederson, Bloomington
- Ron Quanbeck, TKDA
- Paul Stine & Tim Mitchell, MNDOT
- Jim Grube, Hennepin County
- Ken Haider, Ramsey County
- Greg Isakson, Goodhue County
Guiding Documents

- MNDOT Bikeway Facility Design Manual
- Chapter 8820 State–Aid Operations, Department of Transportation State Aid for Local Transportation Division
- AASHTO
- Context Sensitive Solutions in Designing Major Urban Thoroughfares for Walkable Communities
Where should we start?

- Studied the tables in the 8820 Rules
- Urban tables vs. Suburban/Rural tables
- Decided to start with the 8820.9936 Urban; New or Reconstruction projects
### 8820.9936 DESIGN STANDARDS, URBAN; NEW OR RECONSTRUCTION PROJECTS.

New or reconstruction projects for urban roadways must meet or exceed the minimum dimensions indicated in the following design chart.

<table>
<thead>
<tr>
<th>Functional Classification and Projected Traffic Volume</th>
<th>Design Speed</th>
<th>Lane Width (a)</th>
<th>Curb Reaction Distance (c)</th>
<th>Parking Lane Width</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collectors or Locals with ADT &lt; 10000</td>
<td>30-40</td>
<td>(b) 11</td>
<td>2</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>over 40</td>
<td>12</td>
<td>2</td>
<td>10</td>
</tr>
<tr>
<td>Collectors or Locals with ADT ≥ 10000 and Arterials</td>
<td>30-40</td>
<td>(b) 11</td>
<td>(c) 4</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>over 40</td>
<td>12</td>
<td>(c) 4</td>
<td>(d) 10</td>
</tr>
</tbody>
</table>

(a) One-way turn lanes must be at least ten feet wide, except 11 feet is required if the design speed is over 40 mph.

(b) Wherever possible, lane widths of 12 feet, rather than 11 feet, should be used.

(c) May be reduced to two feet if there are four or more traffic lanes and on one-way streets.

(d) No parking is allowed for six or more traffic lanes or when the posted speed limit exceeds 45 mph.

(e) Curb reaction must be provided only where parking is not provided.
### 8820.9940 Design Standards, On-Road Bicycle Accommodations for Urban; New or Reconstruction Projects

New or reconstruction projects for urban roadways must meet or exceed the dimensions indicated in the following design chart.

<table>
<thead>
<tr>
<th>Functional Classification and Projected Traffic Volume</th>
<th>Design Speed</th>
<th>Lane Width (ft)</th>
<th>Curb Reaction Distance (ft)</th>
<th>Parking Lane Width (ft)</th>
<th>Bike Way Design 2 Lane Roadways Urban Curb &amp; Gutter</th>
<th>Bike Way Design 4 Lane Roadways Urban Curb &amp; Gutter</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collector or Local with ADT &lt; 2,000</td>
<td>≤30 (99.7)</td>
<td>10 to 12 ft</td>
<td>2</td>
<td>7 to 10 ft</td>
<td>&lt;500 SL WOL 14-16 ft</td>
<td>N/A</td>
</tr>
<tr>
<td>Collector or Local with ADT 2,000 - 6,000</td>
<td>30-40</td>
<td>11 - 12 ft</td>
<td>2</td>
<td>8 to 10 ft</td>
<td>&lt;500 or WOL 14-16 ft or BL 5-6 ft WOL 14-16 ft or BL 5-6 ft</td>
<td>BL 5-6 ft</td>
</tr>
<tr>
<td>Collector or Local with ADT 5,000 - 10,000</td>
<td>≤30 (99.7)</td>
<td>12 ft</td>
<td>2</td>
<td>10</td>
<td>BL 6 ft or WOL 14-16 ft or BL 5-6 ft</td>
<td>BL 6 ft or WOL 14-16 ft or BL 5-6 ft</td>
</tr>
<tr>
<td>Collector or Local with ADT &gt; 10,000 and Arterials</td>
<td>30-40</td>
<td>12 ft</td>
<td>2</td>
<td>10</td>
<td>BL 6 ft or PS 8 ft or SUP</td>
<td>BL 6 ft or PS 8 ft or SUP</td>
</tr>
</tbody>
</table>

**Legend:**
- BL - Shared Lane
- WOL - Wide Outside Lane
- BL - Bike Lane
- PS - Paved Shoulder
- SUP - Shared Use Path
What’s the Process now?

- Comments gathered from CEAM Members and compiled
- The CEAM Committee will meet and discuss the comments
- Since this is a 8820 Rule change, it will follow the State Aid Rule Advisory Committee Process
  - Mid-February meeting scheduled for discussion
  - The Rules Committee is made up of City & County representatives
The committee work is not complete we anticipate the following to be studied:

- 9920 Rural and Suburban undivided: new or reconstruction projects
- 9926 Rural and Suburban undivided; Reconditioning projects
- 9946 Urban; Reconditioning Projects
Questions?