Walkable Street Design

This document provides a comparison of four design manuals based on various elements that impact pedestrian comfort. It is important to note that none of these manuals are required – they are guidelines. It is up to the individual designer’s judgment, the context, and desired outcome of the street in question. It is also important to recognize that each manual has a bias. SUDAS and ASHATTO are suited toward auto-centric design solutions, while ITE and NACTO are more suited for designing pedestrian-oriented streets. For the sake of comparison, this document focuses on design standards for arterial streets.

### Prevalent Design Manuals

- **SUDAS**: The Statewide Urban Design manual was developed to create uniform urban design standards and specifications in Iowa. This document focuses on Chapter Five which covers street design guidelines.
- **AASHTO Green Book**: Most commonly used national guidelines produced by the American Association of State Highway and Transportation Officials.
- **ITE Designing a Walkable Urban Thoroughfare**: The Institute of Transportation Engineers produced a context sensitive guide for walkable, urban communities.
- **NACTO Urban Street Design Guide**: An overview of the principles that cities are using to make their streets safe and inviting for people walking, shopping, parking, and driving in an urban context.

<table>
<thead>
<tr>
<th>Potential Impacts</th>
<th>Auto-Oriented</th>
<th>Pedestrian-Oriented</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum Lane Width</td>
<td>Preferred</td>
<td>Acceptable*</td>
</tr>
<tr>
<td>Travel lanes over 10 feet encourage cars to drive faster and increases the distance pedestrians have to cross the street</td>
<td>12 feet</td>
<td>11 feet</td>
</tr>
<tr>
<td>Curb Offset</td>
<td>A curb offset increases the effective lane width and encourages speeding</td>
<td>3 feet</td>
</tr>
<tr>
<td>Clear Zone (40 mph or less)</td>
<td>Clear zones in urban setting can prevent street trees, cafe seating and other amenities that help create an inviting pedestrian environment.</td>
<td>10 feet</td>
</tr>
<tr>
<td>Minimum Curb Radius</td>
<td>A larger radius increases the turning speed of cars at the intersection may make it less safe for pedestrians and bicyclists</td>
<td>25 feet**</td>
</tr>
<tr>
<td>Design Speed</td>
<td>A design speed that’s higher than the posted speed encourages speeding</td>
<td>Design speed ≥ 5 mph over posted speed</td>
</tr>
<tr>
<td>On-Street Parking</td>
<td>On-street parking provides a buffer between people walking and car on travel lanes. This buffer helps create a comfortable environment for the pedestrian</td>
<td>Not allowed on arterial streets</td>
</tr>
<tr>
<td>Minimum Parking Lane Width</td>
<td>Wider parking lanes take up valuable space and increases the crossing distance for pedestrians</td>
<td>Not allowed on arterial streets</td>
</tr>
<tr>
<td>Street Trees</td>
<td>Street trees create welcoming spaces, buffer pedestrians from car traffic, and reduces speeding</td>
<td>Design criteria discourages the use of trees in public right-of-way</td>
</tr>
</tbody>
</table>
Sources

Minimum Lane Width

Clear Zone

Minimum Curb Radius

Design Speed

On-Street Parking

Street Trees

* Includes 5M-1 Complete Streets
** Based on Table 5M-1.01: Preferred Elements for Completes Streets for an Arterial in a commercial setting. This seemed the most appropriate standard since this document was developed with a focus on mixed-use use commercial corridors and specifically Downtown Des Moines.