



(4.0) Design Guidelines

The purpose of design guidelines is to address issues raised in the existing conditions with policies and programs that achieve established goals and objectives. The design portion of non-motorized transportation plans includes a wide variety of elements depending on the plan, and there are no standard guidelines. However, common guidelines in most non-motorized plans include such things as accessibility elements and universal design. They also include design standards for sidewalks, roads, facilities for bicyclists and pedestrians, and wayfinding mechanisms.

Accessibility. A non-motorized plan meets the needs of all its users including those with disabilities. Accessibility elements include the accommodations provided for people who are not able to fully use the facilities. Accessibility elements involve sidewalks, trails, and street linkages specifically for people with disabilities. They are elements targeted toward a specific user group. Accessibility elements do not necessarily involve attributes intended for the general public that are included in universal design.

Universal Design. Universal Design, according to the Center for Universal Design is “the intent of universal design is to simplify life for everyone by making products, communications, and the built environment more usable by as many people as possible at little or no extra cost. Universal design benefits people of all ages and abilities.¹²⁰ The Universal Design concept helps guide design form and function to benefit more people. It is the set of standards that determine the overall form of a project. A non-motorized plan has various aspects of Universal Design. An example of the design standards for sidewalks and roads are standards that say how wide and long a road or sidewalk should be depending on its use. The design guidelines for bicyclists and pedestrians involve such examples as bike racks and bench sizes, shapes and forms.







¹²⁰ About Universal Design. Center for Universal Design, College of Design, North Carolina State University. 2007 http://www.design.ncsu.edu/cud/about_ud/about_ud.htm. 5 Feb 2007





Wayfinding Mechanisms. Wayfinding techniques refer to “maps, street numbers, directional signs and other elements as “wayfinding devices”. These visual cues may or may not include signs. This narrow description is the current misunderstanding that wayfinding is essentially the same as signage. The two terms are not synonymous. Sign-makers deal with designing, fabricating and installing signs. However, wayfinding used to navigate unfamiliar environments doesn't rely exclusively on signs.¹²¹ The above definition describes the difference between wayfinding and signs. A definition of the term wayfinding should be included in Lansing's non-motorized plan because there is confusion as to what the term actually means. If Lansing plans to use wayfinding techniques in their non-motorized plan, they will need to define it. The term will encompass a whole range of techniques that provide directions for uses of the trail.

Frequently accessible documents One of the documents that should be examined by the mayor's non-motorized transportation task force is *The Federal Highway Administration's (FHWA) guidebook Part II of II: Best Design Guide; Designing Sidewalks and Trails for Access*. This document contains guidelines for designers, engineers and planners in reference to the standards for such things as sidewalks, roads, and bike lanes. Some of the items this document includes are listed below:

-  Understanding Sidewalk and Trail Users
-  Integrating Pedestrians into the Project Planning Process
-  Sidewalk Corridors
-  Driveway Crossings
-  Providing Information to Pedestrians
-  Curb Ramps

¹²¹ Muhlhausen, John. Wayfinding Is Not Signage: Signage Plays An Important Part of Wayfinding –But There's more, (www.signweb.com/ada/contwayfinding0800.html), 2005





- 🚲 Pedestrian Crossings
- 🚲 Traffic Calming
- 🚲 Sidewalk Maintenance and Construction Site Safety
- 🚲 Sidewalk Assessment
- 🚲 Trail Planning
- 🚲 Universal Trail Assessment Process
- 🚲 Shared-Use Path Design
- 🚲 Recreation Trail Design
- 🚲 Trail Crossings
- 🚲 Specialized Trails
- 🚲 Trail Maintenance

Another appropriate document that needs to be analyzed by the task force is the *American Association of State Highway Transportation Officials (AASHTO) document "A Policy on Geometric Design of Highways and Streets."* This book is commonly called the Green Book. These guidelines also deal with above design elements. Some of the issues covered in the AASHTO guide are listed below that are applicable to the non-motorized plans are as follows:







- 🚲 Shared Roadways
- 🚲 Designated shared roadways (bike routes)
- 🚲 Bicycle Lanes
- 🚲 Shared use Paths
- 🚲 Design Controls and Criteria





Elements of Design

The Institute of Transportation Engineers (ITE) created the document *Promoting Sustainable Transportation Through Site Design: An ITE Proposed Recommended Practices*. These are nationally recognized standard documents that are used by designers and engineers for designing streets, sidewalks and trails. A summary of some of the questions covered in the ITE document are below. The guidelines in these documents will help the City of Lansing determine the proper design parameters to utilize.

-  Guideline applicability by stage in the site design process
-  Site layout
-  Site Infrastructure design
-  Road and sidewalk widths
-  Site amenities
-  Pedestrian friendliness of sites

Which set of guidelines to use. Design guidelines and standards are by no means limited to the documents listed above. The city has no uniform set of standards. However, Lansing should analyze these models to see if they are applicable to the project as it is finally conceived. Once the documents have been examined, Lansing can determine which guidelines are appropriate for a project and when to use them. The design guideline information is extensive and should be analyzed according to a city's specific needs. Furthermore, a source of funding for the projects should be identified. This source will often dictate the type of design guidelines that the city will use as it applies for grant to construct the facility.





How can Design Guidelines be applied to Lansing? The design guidelines from specific non-motorized plans and documents can be applied to Lansing in several different ways. One of the most direct ways that design standards can be applied to Lansing is to examine their existing conditions. Certain assets and amenities in Lansing can be analyzed according to these guides from other non-motorized plans. For example, the city of Portland and Madison Wisconsin are considered national leaders in non-motorized transportation. With the GIS map of bike racks in the city, Lansing city staff can determine where more can be placed and what type of bike rack should be used. Another way a design guideline could be applied to Lansing is when a road is to be reconstructed; bike lane and sidewalk width standards could be integrated into the new road.

