Shifting Gears:

Expanding Bicycle Infrastructure in St. Cloud, MN

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Abstract

The American transportation funding has generally gone toward financing automobile infrastructure, and as a result bicycle transportation is underdeveloped in many American cities. St. Cloud Minnesota is an example of underdeveloped bicycle infrastructure and has resulted in an absence of bicycle friendly transportation options. Bicycling is beneficial because of a host of reasons including economic, environmental, health and traffic congestion benefits. How can a traditionally automobile based society, such as St. Cloud, implement a bicycle plan that will fully reap the benefits of bicycling? Through analysis of the needs of St. Cloud cyclists along a "want to ride/ need to ride" spectrum the city will be able to implement the best bicycle plan.

Methods

In order to determine what components should go into a St. Cloud bicycle transportation plan a literature review and review of case studies of cities with well developed bicycle infrastructure were completed. Research on the current efforts of different bicycle related programs were conducted through attending meetings and interviews with the St. Cloud Area Planning Organization and Stearns County Parks. Spatial analysis of census data was used to identify areas where expanded bike infrastructure will be most effective.

Case Studies

Minneapolis, Minnesota: Ideal model of bicycle friendly city for St. Cloud. Master Bike plan, Bicycle Friendly America Gold Rating From League of American Bicyclists, rated "number one cycling city in America" by *Bicycling Magazine*.

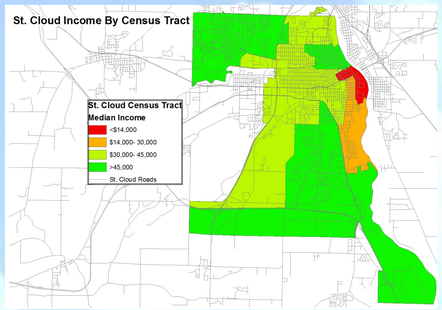
Eau Claire, Wisconsin: Realistic model of bicycle friendly city for St. Cloud. Master Bike plan, Bicycle Friendly America Bronze Rating From League of American Bicyclists.

Both case studies showcased many best practices that can be summarized into three different categories:

Riding surface: the style of the path must be tailored to the needs of the user. For example: inexperienced bicyclists will desire a riding experience with limited contact with automobiles

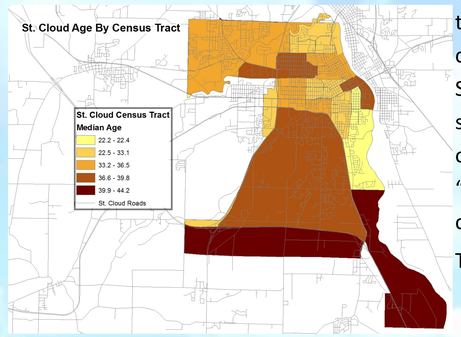
Support structure: support for cyclists includes parking facilities, shower facilities and other things that improve the riding experience.

Education and enforcement: the best bicycle trails not only feature well designed physical traits, but also ensures that bicyclists feel safe while riding. Examples include route maps and social outreach programs.



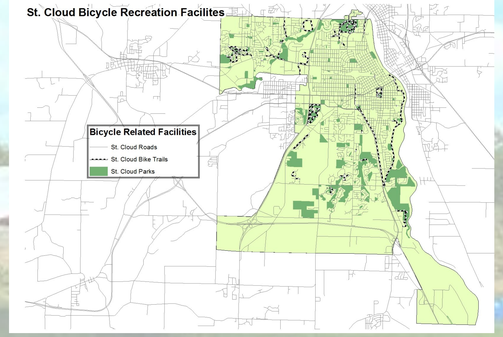
Map 1: St. Cloud Income

Map 1 depicts income in St. Cloud, showing where potential "need to ride "citizens may live. The red area represents an income of less than $14,000 per year, the orange area represents an income of less than $30,000 per year. Both areas potentially contain individuals who may need to ride because of financial reasons



Map 2: Age In St. Cloud

Map 2 depicts areas where college students may live. Since undergrads generally complete their education by the time they are 22, it can be assumed that individuals living near the St. Cloud State University campus under the age of 22 are college students.



Map 3: Recreational Facilities in St. Cloud

Map 3 depicts different opportunities for recreational cycling in St. Cloud. Green areas represent city and county parks and the striped lines represent bike trails (separate from roads). It is important to note these trails seem to be widely distributed, but are not well connected.

Solutions

Broad patterns of cyclists' needs can be assumed from the maps. Since low income and college age individuals live in similar areas, and have similar needs, it would be prudent to install utilitarian bicycle facilities in these areas. These include on road options such as bike lanes, shared roads, expanded signage and utilitarian type destinations. Recreational bicycle facilities currently exist in St. Cloud, but do not serve the needs of the recreational cyclist; many parks in the southwest of the city are not connected and riding can be restricted by gaps in the system. By connecting existing systems to parks that include unrestricted riding, cycling in St. Cloud can be greatly improved.

Results:

With the multitude of options for bicycle infrastructure from Minneapolis and Eau Claire there needed to be simplification and contextualization for St. Cloud. The most cost effective improvements include improvements based on three different groups in St. Cloud. Using examples of best practices found in the case studies, three essential components of a bike system are to be considered in St. Cloud according to types of cyclists who are going to use the bike routes. Three groups in St. Cloud can be placed along a "need to ride" "want to ride" spectrum. Along this spectrum low-income individuals may need to ride bicycles for economic reasons, or because they have no other option for transportation. On the opposite end, "want to ride," a group has been identified: the recreationalist. The type of cyclist can be summarized in the table below:

Table 1:

Type of Cyclist Spectrum

Want to ride:		Need to ride:
• Recreation • Fitness • Choose not to drive		• Finances • Unable to drive
Recreational user:	**College Student:**	**Low Income:**
• Parks • Un-restricted riding • Support structure	• Recreation • Transportation	• Transportation • Utilitarian destinations

The maps help to identify where these groups may live in St. Cloud. Map 1 shows that low-income residents live in eastern St. Cloud, near the river. Map 2 shows college age individuals also live in eastern St. Cloud, near the State University Campus. Map 3 Shows a network of recreation facilities that are scattered throughout St. Cloud. By targeting specific groups in St. Cloud, best practices found in Minneapolis and Eau Claire can be more efficiently implemented.

Photo credit:
http://2.bp.blogspot.com/-upQ150zb6Is/T_outDVtOKI/AAAAAAAAAbE/HZ-SjrjIz_k/s1600/20120708-2632+lake+wobegon+trail+1280x.jpg

"We need to create an environment and society that recognizes being physically healthy" Dave Johnson—Exercise physiologist, St. Cloud Resident