The Way Forward

Analysis for implementing Non-motorized transportation networks in the City of Lansing

Project Overview

Client

- City of Lansing
  - Project Liaison- Andy Kilpatrick
  - Mayor's Task Force on Walking and Biking

Products

- *Non-Motorized Transportation Planning Resource*
- Data CD
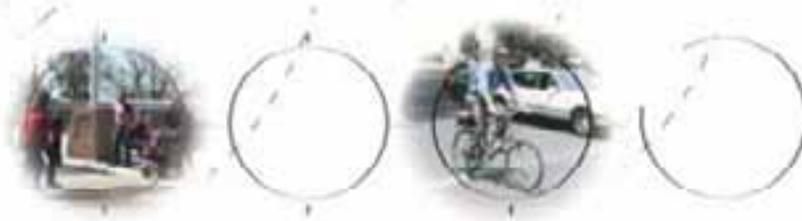
What is Non-Motorized Transportation?

Nonmotorized Transportation (also known as *Active Transportation* and *Human Powered Transportation*) includes Walking, Bicycling, Small-Wheeled Transport (skates, skateboards, push scooters and hand carts) and Wheelchair travel

Motivations for NMT Planning?

- There has been much change in public opinion on this topic
- There is a growing need to create active, healthier communities.
- Better use of land throughout the city
- Contributes to a more sustainable future
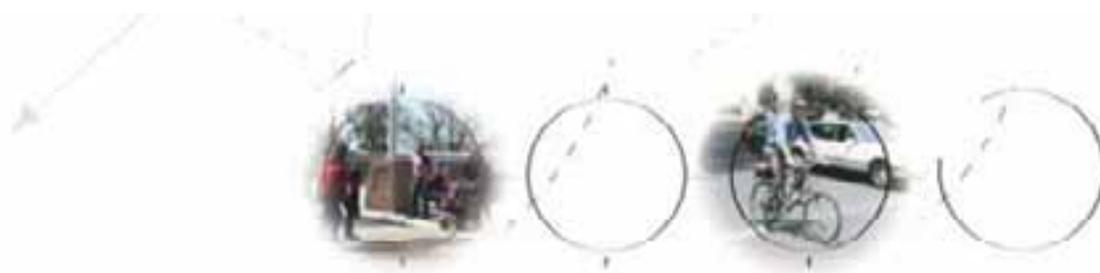
What is an NMT PLAN?

- **Review of 25 NMT Plans**
  - Including surrounding communities
  - Comparable cities
  - National leaders
- **4 content areas in an Exemplary NMT Plan**

Sections of an NMT PLAN?

- ## Introduction
  - Overview of NMT, Purpose of NMT Plan, Key findings, Goals and vision for the NMT Plan

- ## Existing Conditions
  - NMT User Profile, Community socioeconomic profile, Inventory of existing NMT facilities, Land use patterns, Public safety, Local, State, Federal Laws and Regulations

- ## Design Guidelines
  - Design/Construction guidelines for NMT facilities

- ## Implementation
  - Recommended actions, policies, strategies

What about Lansing?

Non-Motorized Transportation

NMT User Profile

– **Who uses NMT?**

– **How/Why NMT Is used?**
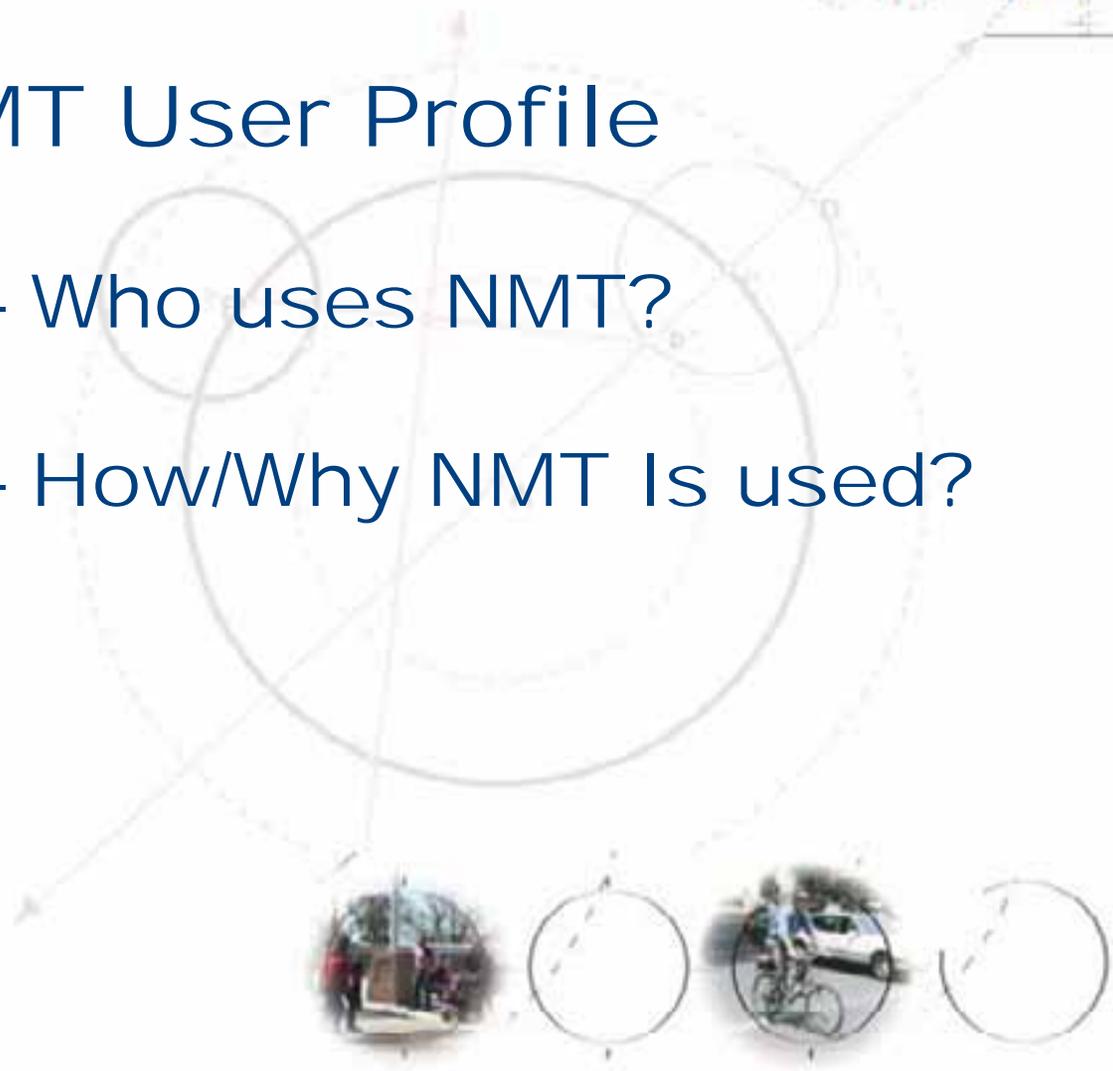
NMT User Profile

Recreational vs. Utilitarian NMT Use

- **NMT is utilized for recreation more than for commuting.**

Purposes of pedestrian trips

Category	Percent
Other	0.014
Required for my job	0.02
Commuting to work or school	0.046
Personal errands	0.15
Recreation	0.173
Exercise/my health	0.597

Purposes for trips by bicycle

Category	Percentages
Required for my job	0.72
Personal errands (to the store, post office, and so on	5.48
Exercise/for my health	37.93
Recreation	47.8
Commuting to work or school	8.07

Source: BTS Omnibus Study 2002
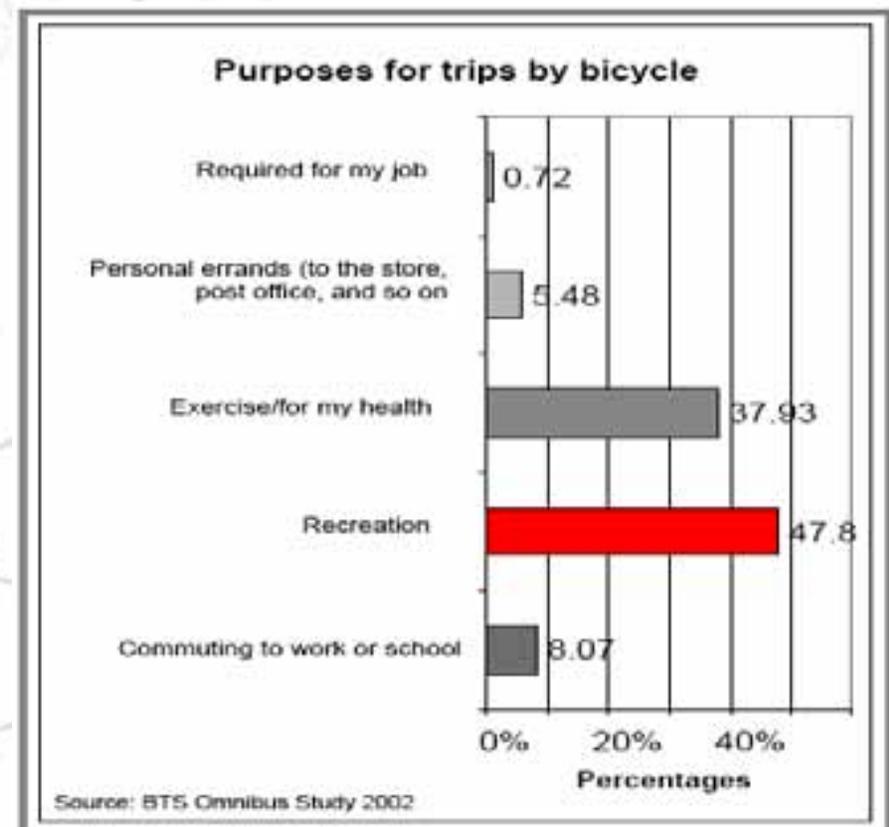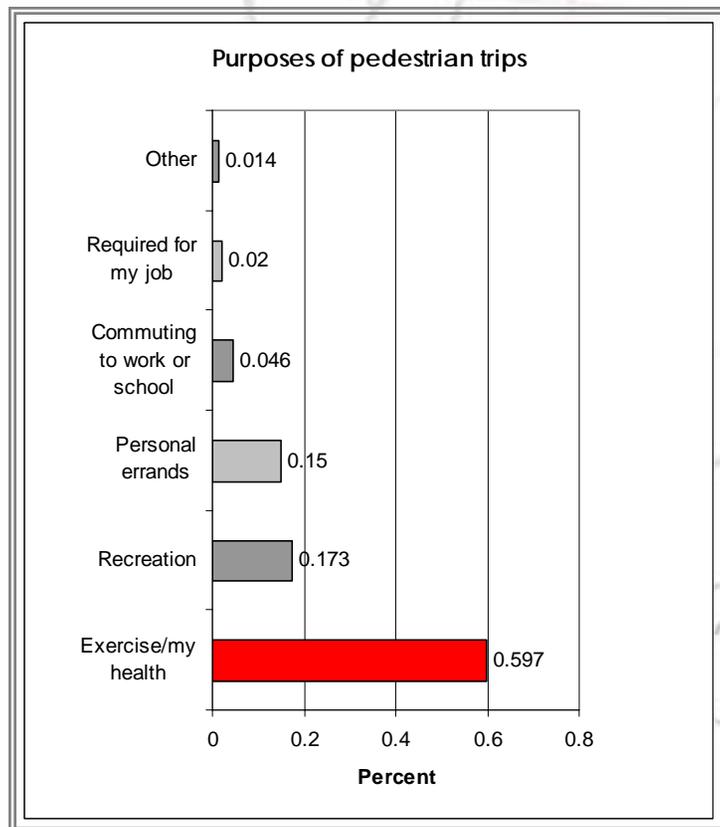
NMT User Profile

Lansing has low levels of NMT for Utilitarian use

Walking to work

Source: 2000 U.S. Decennial Census SF3 Table 30

Biking to Work

Source 2000: U.S. Decennial Census SF3 Table 30
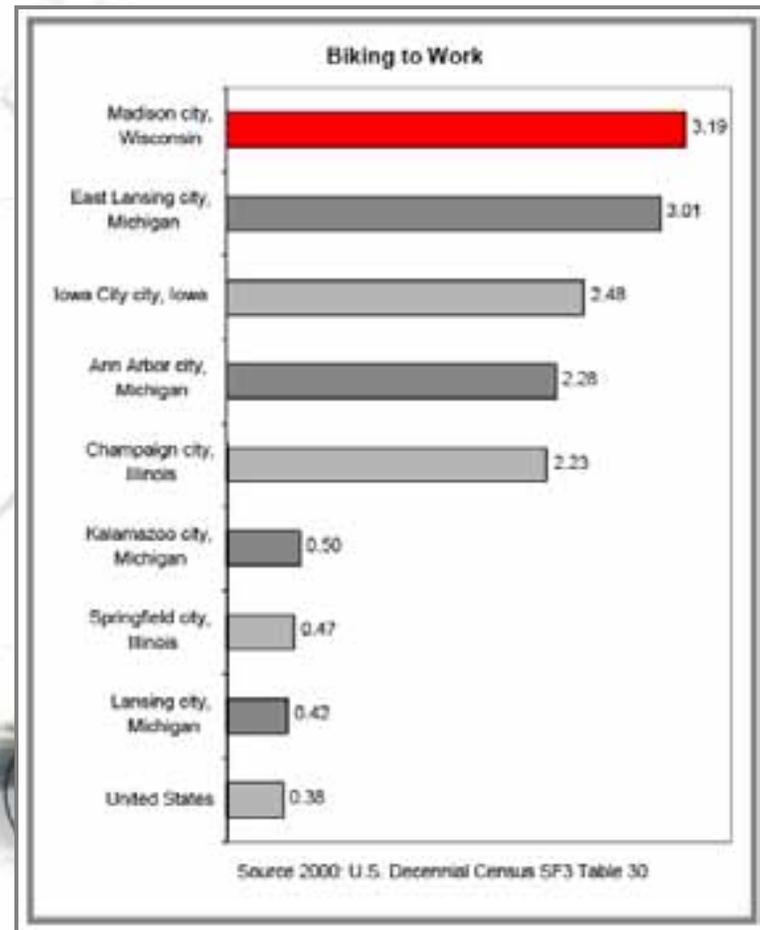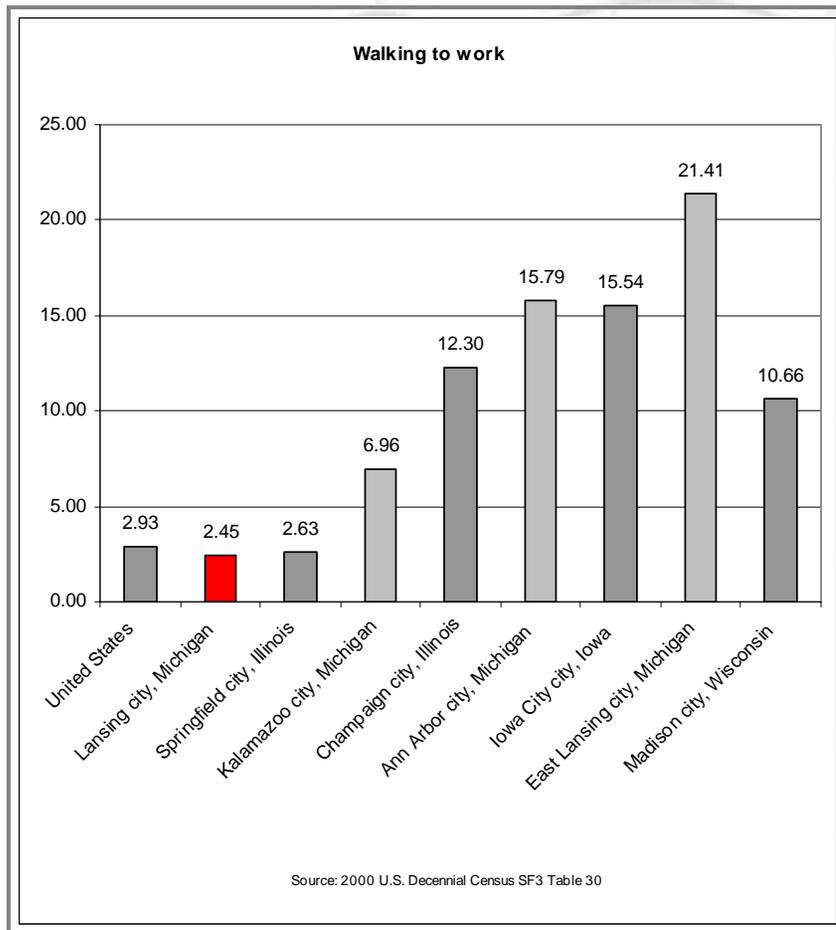
NMT User Profile

Existing Conditions: Percentage Commuting to Work by Bicycle
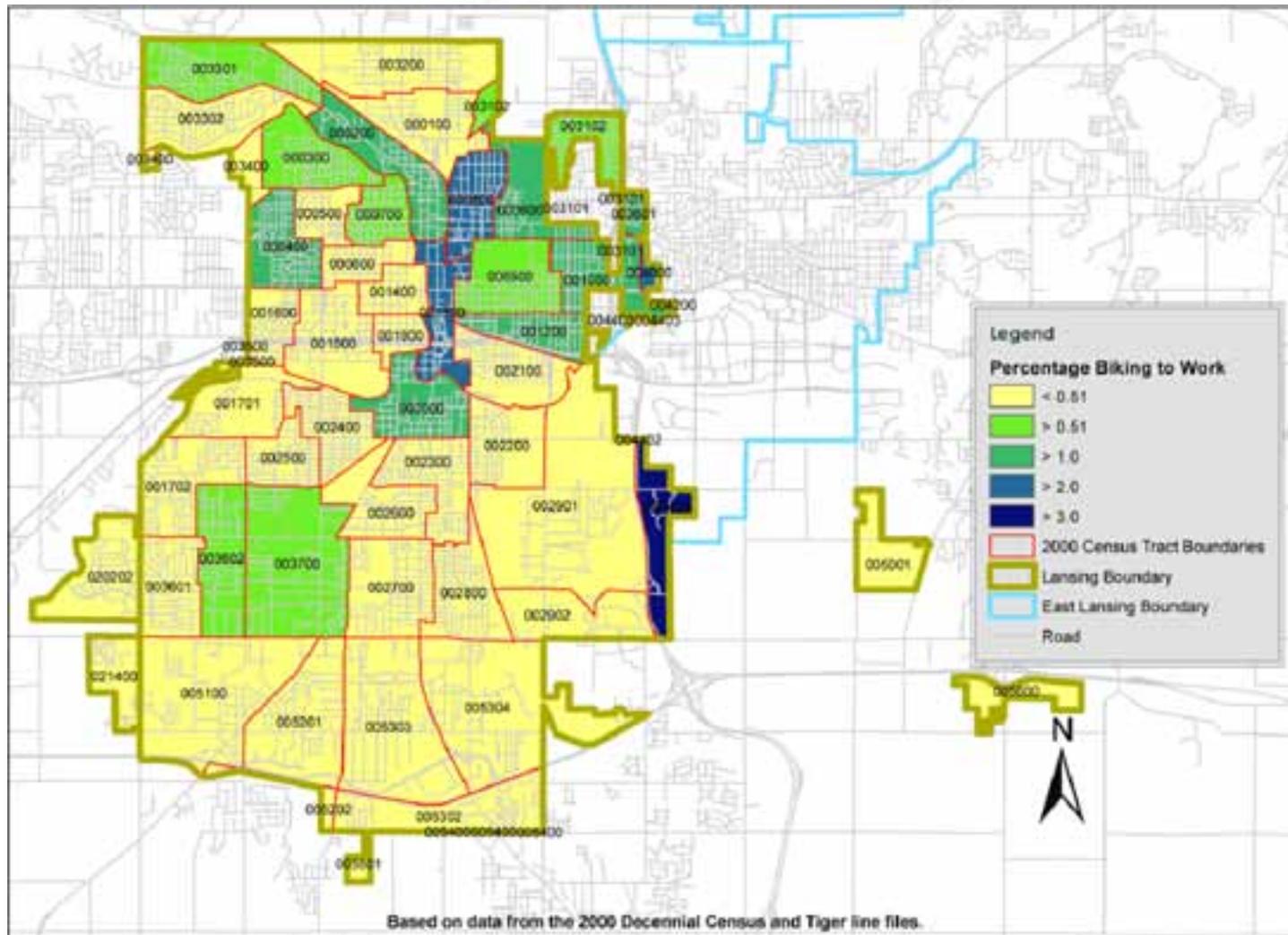
NMT User Profile

Existing Conditions: Percentage Walking to Work & NMT Facilities
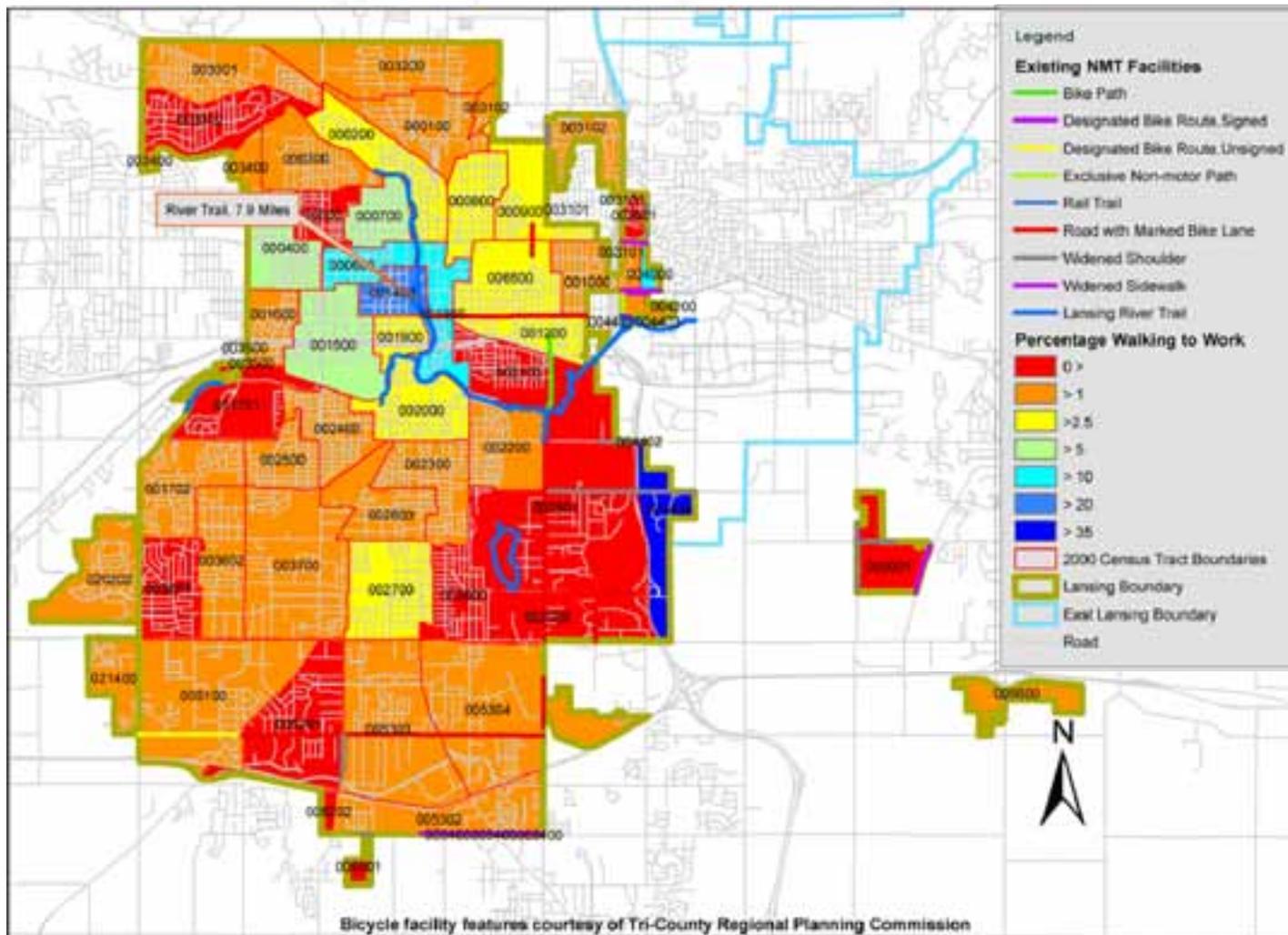
NMT User Profile

NMT Transportation to Work

- **Respondents in Lansing rely on private automobiles for transportation to work**

Figure 3 Source: 2000 U.S. Decennial Census SF3 P30
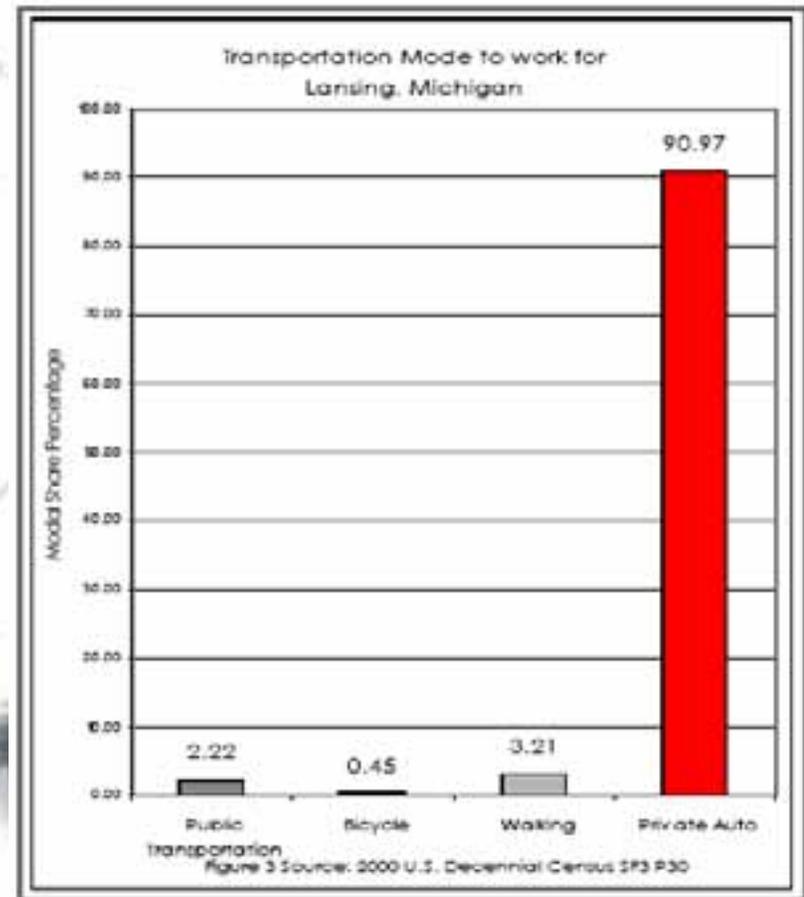
NMT User Profile

Age
- **Cyclists tend to be younger**
  - 66% of cyclists are under 45 (BTS Survey)

Gender
- There are significant differences in the way men and women use NMT

Socioeconomic Factors

Factors Influencing NMT

- Income/Poverty

- Vehicle Access

- Facilities/Infrastructure

- Land Use Patterns

- Public Safety

- Schools (K-12)

Socioeconomic Factors

Median Household Income in Lansing

- – $34,833 Median household income in Lansing (2000 Census)
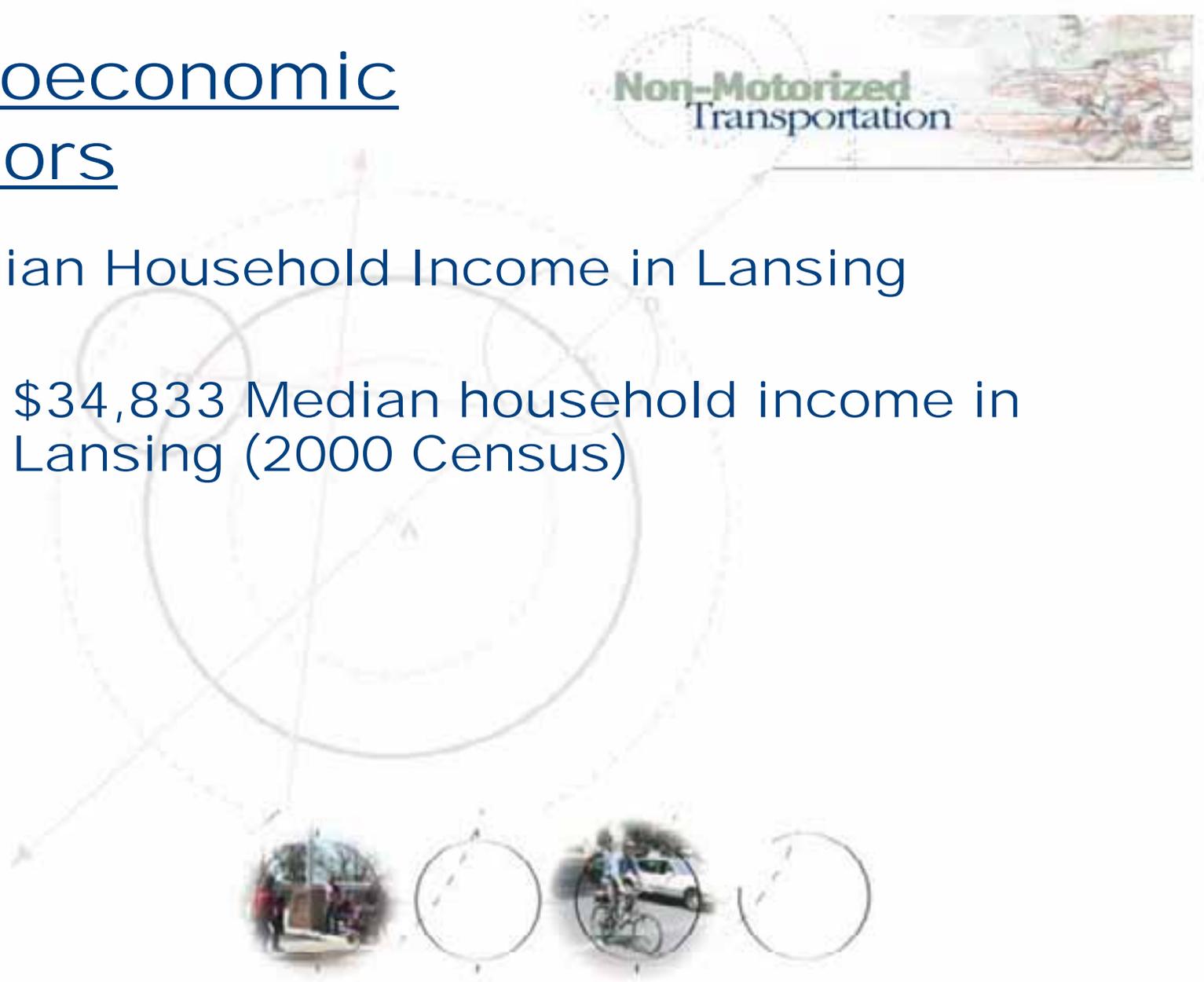
Socioeconomic Factors

Household Poverty in Lansing

- The average household poverty level is 15%

- 21 of 54 (38%) census tracts have higher than average household poverty levels

Existing Conditions: Percentage of Households Below/Above Poverty

Legend

Average Number of Households Living in Poverty

- <15%
- >15%
- Existing NMT Facilities (Including Widened Sidewalks)
- 2000 Census Tract Boundaries
- Lansing Boundary
- East Lansing Boundary
- Road

Data from 2000 Decennial Census SF1 and TCRPA.

Socioeconomic Factors

Vehicle Access

- 89% of households had access to at least one vehicle (2000 census)

- 17 census tracts have lower than average rates of vehicle access
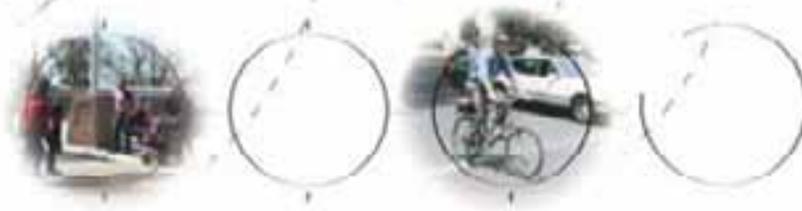
15 of these 17 also have above average poverty

Existing Conditions: Access to a Vehicle
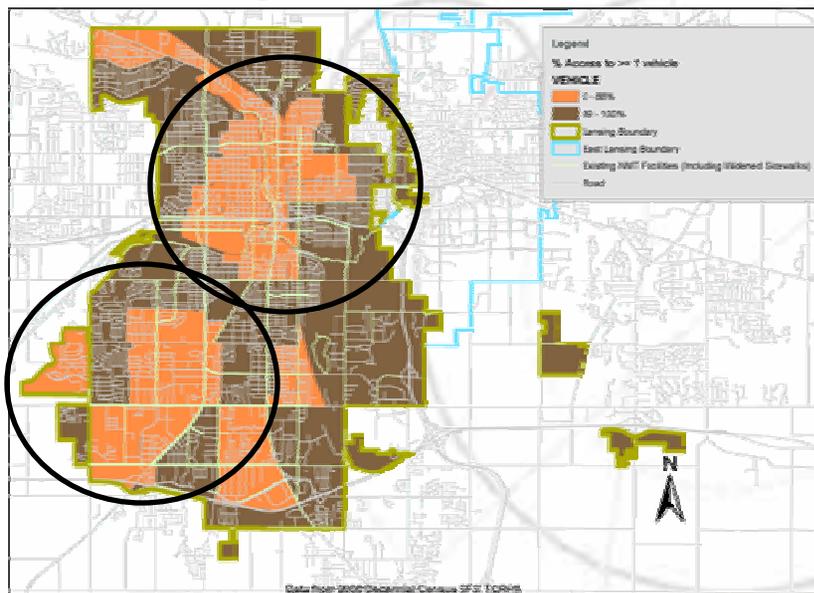
Existing Conditions: Percentage of Households Below/Above Poverty
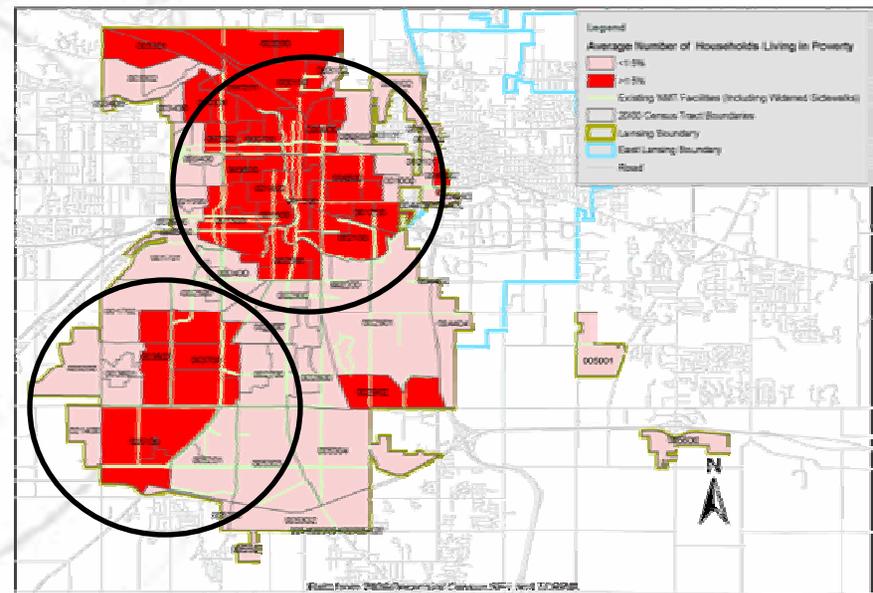
Social Equity: Who Needs NMT Alternatives?

Legend

	Lowest Priority
	Lower Priority
	Higher Priority
	Highest Priority
	Roads
	East Lansing City Boundary
	Lansing City Boundary
	2000 Census Tract Boundaries

Based on combined data from "Poverty", "Access to Privately Owned Vehicle", "College Students" maps. Analysis and calculations by Author, 2007.
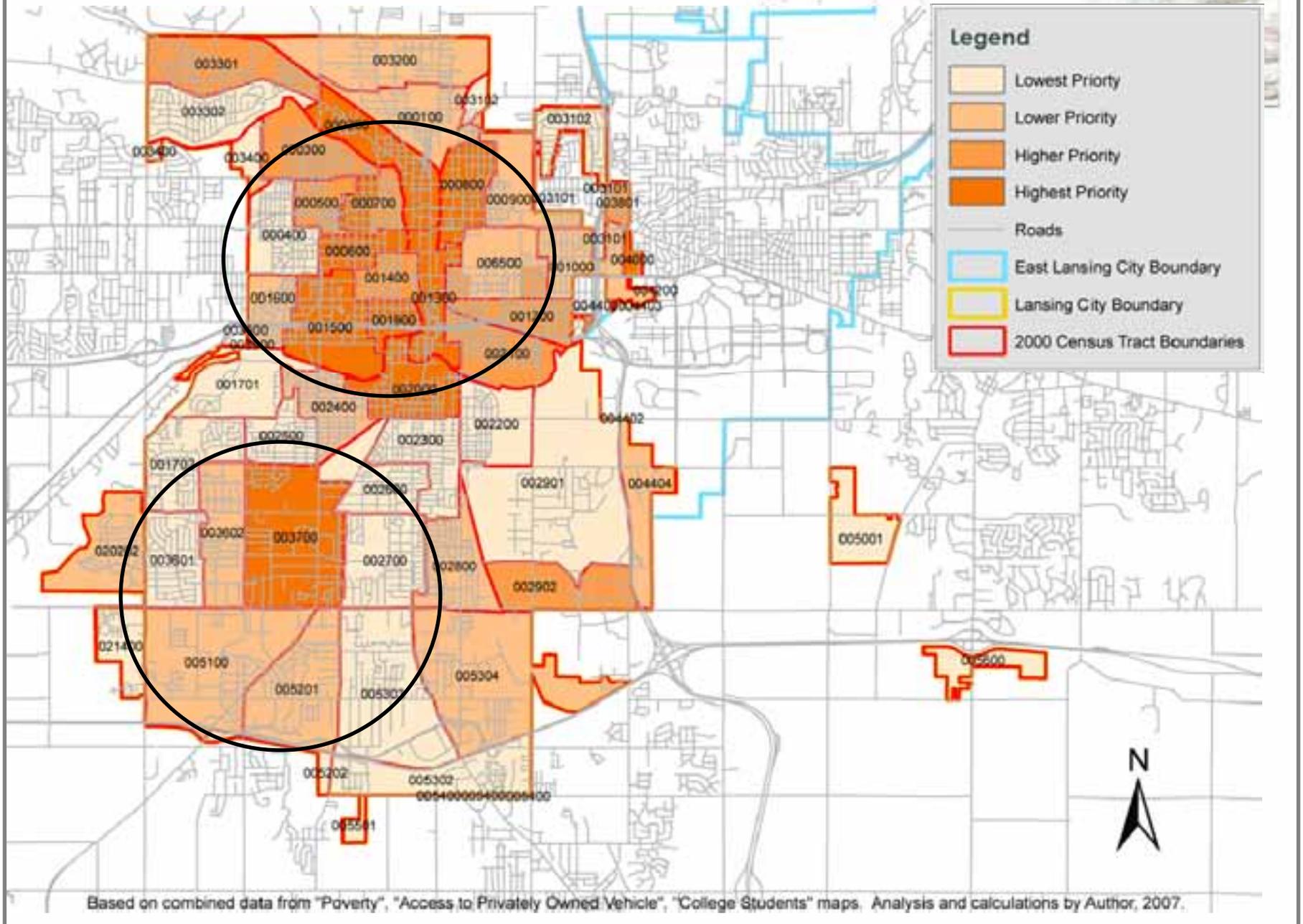
Social Equity: NMT Usage and Need

Legend

- ▊ Low SE and NMT User Priority
- ▊ Moderate SE and NMT User Priority
- ▊ High SE and NMT User Priority
- — Roads
- ▭ East Lansing City Boundary
- ▭ Lansing City Boundary
- ▭ 2000 Census Tract Boundaries
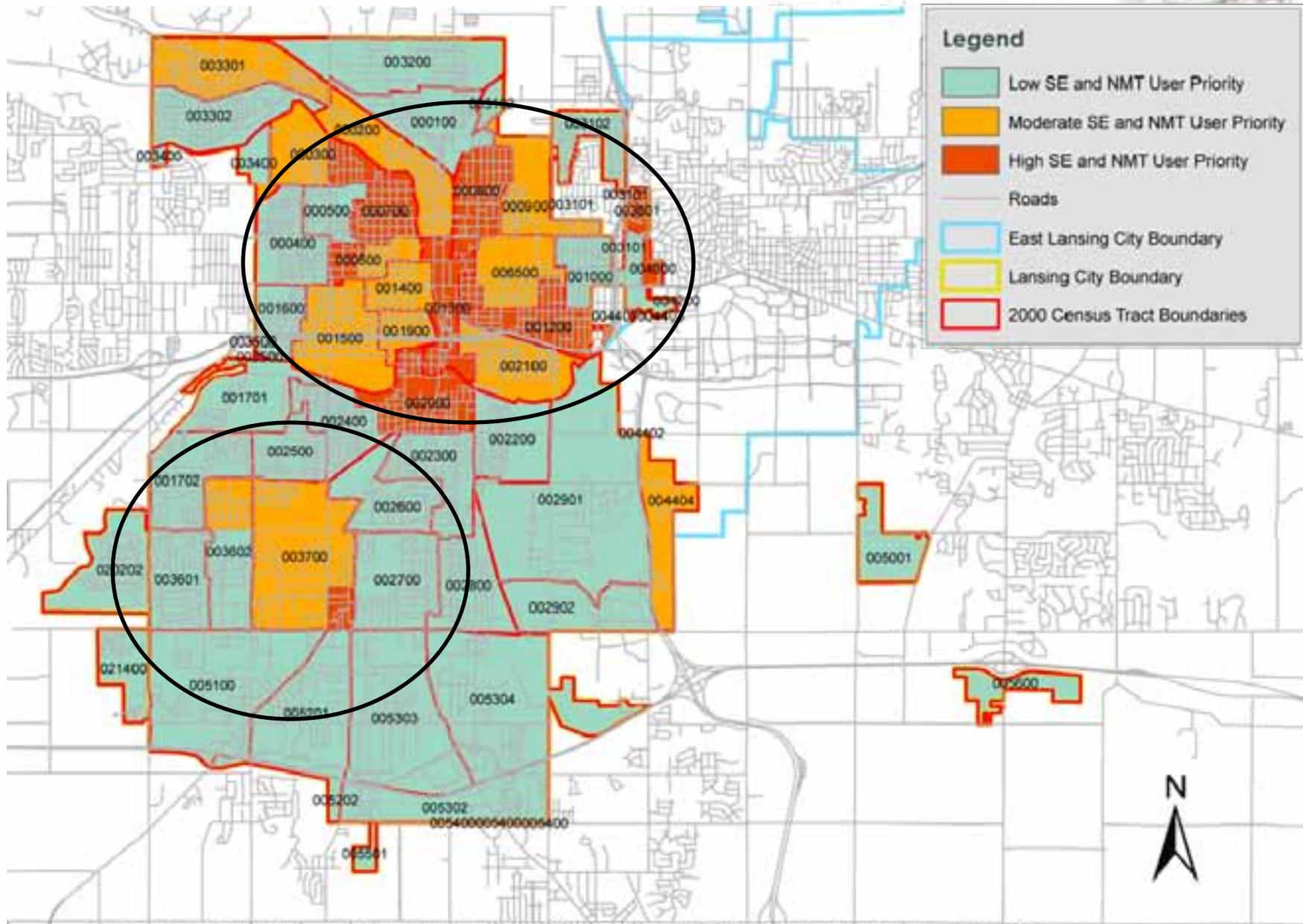
Based on combined data from "NMT User Composite" and "Social Equity" maps. Analysis and calculations by Author, 2007.

NMT Facilities and Infrastructures

- **Facilities and Infrastructure**
  - **Includes:**
    - **Sidewalks**
    - **Shared roadways**
    - **Bicycle Parking and Storage**
    - **Bike Lanes and Paths**

  - **Most Common in Lansing**
    - **Bike Parking, Bike Lanes and other types of bicycle paths**

NMT Facilities and Infrastructures

Bicycle Parking in Lansing

- **Currently there are over 340 bicycle parking locations in Lansing**

Existing Conditions: Bicycle Parking

Legend

⊙ Bicycle Parking

Existing NMT Facilities

— Bike Path
— Designated Bike Route, Signed
— Designated Bike Route, Unsigned
— Exclusive Non-motor Path
— Rail Trail
— Road with Marked Bike Lane
— Widened Shoulder
— Widened Sidewalk
— Lansing River Trail
☐ 2000 Census Tract Boundaries
☐ Lansing Boundary
☐ East Lansing Boundary
— Road

From data provided by the City of Lansing, GIS operations performed by the Team, 2007.