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MEMORANDUM

Date:	May 7, 2014
To:	David Trowbridge
From:	Kevin Luecke & Tom Huber
Project:	Sustainable Madison Transportation Master Plan
Re:	Draft Sidewalk Methodology & Analysis

This memorandum provides a brief overview of the draft methodology and analysis tools that will be used for recommending sidewalk improvement priorities as part of the Sustainable Madison Transportation Master Plan. The methodology and analysis provided here are very much an early draft, and may change considerably as feedback from the Plan Steering Committee, City Staff and the general public is factored in.

Pedestrian Demand

Map 1 broadly represents pedestrian demand (existing and latent) and the potential for increased pedestrian trips in the City of Madison. The "heat map" takes into account the presence of the following features (listed in no particular order):

1. High population density (more than 55 people per acre)
2. Medium-high population density (between 27 and 55 people per acre)
3. Schools (preschools, K-12, and higher education—except UW)
4. University of Wisconsin campus
5. Bus stops, transit centers and park & rides
6. Shopping (regional centers/big boxes)
7. Major employers
8. Government centers
9. Grocery stores
10. Libraries
11. Medical offices and hospitals
12. Parks
13. Post offices
14. Civic/event centers
15. Shared Use Paths

These features were plotted on the map, buffers were created around each feature, the buffered areas were weighted, and the total score for each area was summed. The map reflects where significant walking occurs now (downtown/campus) because of the density of destinations and high density housing in those areas. The map also highlights areas that have the potential for more walking trips, but may not currently have a lot of walking trips occurring.

Existing Sidewalks

Map 2 displays the presence or absence of sidewalks for all City of Madison streets while Map 3 displays just those streets with sidewalk only on one side or no sidewalks. Streets are coded as having sidewalk on both sides, just one side, or no sidewalks. Where streets are coded as having sidewalk on one side, the data does not indicate which side of the street has the sidewalk. Streets that are coded as "Interstate" or "Freeway" are not included in this analysis. It should also be noted that shared use paths are not included in the sidewalk inventory, so a street may be coded as having no sidewalks or sidewalk only on one side when a shared use path actually exists on one

side of the street; John Nolen Drive is an example of this. Table 1 displays the miles and percentage of all streets displayed in Map 2 that are coded as having sidewalk on both sides, one side, or no sidewalks.

Table 1: Miles and percent of streets in Madison with sidewalks

Sidewalk Status	Miles	% of Total
Both Sides	563.83	61.60%
One Side	109.07	11.92%
None	242.48	26.49%

Sidewalk Priorities

Potential generalized criteria for sidewalks in the City of Madison are displayed in Table 2. Sidewalks should be installed on both sides of all new streets in the city when they are constructed, and on both sides of all existing streets that do not currently have sidewalks when the opportunity arises.

Table 2: General sidewalk criteria for Madison streets

Street Type	Retrofit	New Construction
Arterial	Both sides	Both sides
Collector	Both sides	Both sides
Local	Both sides	Both sides

Based on the criteria listed in Table 2, priorities must be established for retrofitting sidewalks to existing streets. The following criteria are suggested for establishing priority projects:

1. Arterial streets with no sidewalk or sidewalk only on one side within developed areas;
2. Collector streets located in areas that are above the median value on the Pedestrian Heat Map;
3. Collector streets located in areas that are below the median value on the Pedestrian Heat Map within developed areas;
4. Local streets within ¼ mile of a school that have an average daily traffic volume greater than 250 vehicles per day
5. Arterial and collector streets in undeveloped areas;

The full analysis and mapping of the above priorities has not been completed. However, Maps 4 – 7 are attached to provide a general idea of the street segments that will likely be included in the final sidewalk priority recommendations. These maps display the maximum number of street segments in each category that could be included in the final priority recommendations. For example, Map 6 displays all local streets within ¼ mile of schools that do not have any sidewalks or have sidewalk on only one side of the street. Many of these street segments are on very low traffic streets or short cul-de-sacs that will likely not make the final sidewalk prioritization. Streets with a shared use path on one side of the street have largely been removed from the streets displayed on these maps. U.S. Highway 51 (Stoughton Road) and Campus Drive appear on the maps as arterials without sidewalks, but some segments do have sidewalks either along the parallel frontage roads or on Old University Avenue (parallel to Campus Drive).

- Map 4: Arterial streets with no sidewalk or sidewalk only on one side;
- Map 5: Collector streets with no sidewalk or sidewalk only on one side;
- Map 6: All local streets with no sidewalk or sidewalk only on one side within ¼ mile of a school; and
- Map 7: Composite of Maps 4 – 6

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Map 2 -Sidewalk Inventory

DRAFT

Sidewalk Status

- Both Sides
- One Side Only
- No Sidewalk

Note: The presence of shared use paths is not reflected in the sidewalk data.

Miles

0 0.5 1 2

Data provided by the City of Madison, Madison Area MPO, and the U.S. Census Bureau. This map is provided "as-is" for informational purposes and no guarantee is made as to the accuracy of the map or data. Plotted Wednesday, May 07, 2014.

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Map 3 -Sidewalk Inventory

DRAFT

Sidewalk Status

- One Side Only
- No Sidewalk

Note: The presence of shared use paths is not reflected in the sidewalk data.

Miles

0 0.5 1 2

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Map 4 - Arterials Without Sidewalks

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Sidewalk Status

- One Side Only
- No Sidewalk

Note: The presence of shared use paths is not reflected in the sidewalk data.

Miles

0 0.5 1 2

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Map 5 -Collectors Without Sidewalks

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Sidewalk Status

- One Side Only
- No Sidewalk

Note: The presence of shared use paths is not reflected in the sidewalk data.

Miles

0 0.5 1 2

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Map 6 - Local Streets Near Schools

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Sidewalk Status

- One Side Only
- No Sidewalk

Note: The presence of shared use paths is not reflected in the sidewalk data.

Miles

0 0.5 1 2

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Map 7 - Composite Map

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Sidewalk Status

- One Side Only
- No Sidewalk

Note: The presence of shared use paths is not reflected in the sidewalk data.

Miles

0 0.5 1 2

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