Title: Development of Pedestrian and Bicyclist Flow Volumes and Risk Factors

Problem Statement:
Pedestrian and bicyclist safety are growing concerns for transportation planners and safety engineers, both within Arkansas and across the country. Pedestrians and bicyclists are extremely vulnerable users of the transportation system and can be particularly subject to serious injuries and fatalities in the event of a crash. A proactive approach to address this issue is needed to improve non-motorized safety. The approach should be two-fold:

First, due to the low number of pedestrian and bicyclist crashes, the crash data, when analyzed, is very random. Research on collecting pedestrian and bicyclist volume flow data is important because it will give us more data to analyze, helping us find trends and patterns in crash data.

Second, since the number of crash data is very low and the data is very random, research on risk factors for pedestrian and bicyclist crashes will be very helpful to improving our ability to use a systemic approach with pedestrian data instead of hot-spot approach.

Potential Solution to Problem:
This project will focus on research about using mobile-device data to analyze people's movement to create pedestrian and bicycle flow volume data. This research will aim to find ways to collect new data including trip frequency, trip distribution, and route choice, while creating map-based visualizations depicting flow volumes. This research will also focus on using the flow volume data along side the already present crash data to find pedestrian risk factors. This research will be vital because it allow us to use the systemic approach for pedestrian studies which focuses more on risk factors to set up preventative methods rather than past crash data, which are very random.

Estimated Project Duration: 18 Months
Prepared By: Mark Salameh
Agency: Arkansas Department of Transportation
Phone: (501) 569-2657
Reviewer: Kim Romano

<table>
<thead>
<tr>
<th>Standing Subcommittee Ranking</th>
<th>Advisory Council Ranking</th>
<th>Statement Combined with Statement Number(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/3</td>
<td>4/14</td>
<td></td>
</tr>
</tbody>
</table>