Healthcare Access Mobility Design Challenge

February 26, 2015
HOW DOES LACK OF TRANSPORTATION AFFECT HEALTHCARE?

3.6 MILLION Americans miss or delay medical care because they lack appropriate transportation to their appointments.
LOW INCOME GROUPS HIGHLY AFFECTED

28%  
Low income groups having transit accessibility, according to Transportation and Land Use Coalition (TALC) 2002

55%  
Missed their appointments or arrived late due to transportation issues.

25%  
Lower-income patients missed or rescheduled their appointments due to lack of transportation, according to Journal of Community Health, 2013.

9%  
Low income group children missed appointments due to transportation - Children’s Health Fund, 2012
Develop a dynamic scheduling software structure that would facilitate the incorporation of patient’s transportation needs while scheduling their appointments.
The patient deals with TWO WORLDS APART

They need to schedule their appointment and decide / figure out which transportation option they will use.

There is a lot of confusion from the patient’s perspective on which service to use and when it is appropriate to schedule their ride through various demand-response services and depending on their eligibility for transportation benefits.

Very complex process: there is no centralized transportation scheduling management
The patient calls-in to schedule their doctor’s appointment AND their ride if they mention they need transportation irrespective of their transportation benefits or eligibility.

The Ultimate Goal is to allow patients to use SMART TRANSIT to schedule their appointment and their transportation online.
MARKET RESEARCH : CO-CREATION SESSIONS

• WRTA Hub
• Neighbor 2 Neighbor
• Worcester Community Connections Coalition
• Family Health Center IT Department
• Family Health Center / Patient’s at Waiting Room Area
• Centros Las Americas / Latino Elder Program
• South East Asian Coalition
MARKET RESEARCH: HOW DO PATIENTS GET TO THE FHC?

- 45% Take the bus
- 18% Drive by themselves
- 15% Share a ride with a friend
- 10% Use a taxi or livery service
- 12% Walk to the hospital

51% of respondents mentioned they had some type of transportation problem.
REASONS FOR TRANSPORT PROBLEMS

- It is too far to walk to the hospital (25%)
- It is difficult to walk in the winter (25%)
- Buses are late (15%)
- Buses don’t show (10%)
- Don’t have money to pay the bus fare (5%)
- Don’t know how to use bus transport (2%)
- Don’t have money to pay for taxi rides (5%)
- Need someone else to help me (5%)

82% Preferred to picked up at their neighbourhoods.

86% Are interested in scheduling a ride to the FHC at the same time they are scheduling their doctor's appointment.
People mentioned they are willing to pay between $1.50 to $3.50 per trip.

23% mentioned they can’t afford to pay the bus fare.

<table>
<thead>
<tr>
<th>Mode</th>
<th>Cost</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>WRTA</td>
<td>$1.50</td>
<td>(Single Fare)</td>
</tr>
<tr>
<td>Car</td>
<td>$1.71</td>
<td>(IRS Standard Mileage Rates)</td>
</tr>
<tr>
<td>WRTA</td>
<td>$3.50</td>
<td>(One Day Pass)</td>
</tr>
<tr>
<td>Uber</td>
<td>$8.07</td>
<td>(Booking fee and tip included)</td>
</tr>
<tr>
<td>Taxi</td>
<td>$10.88</td>
<td>(Taxi Fare Finder)</td>
</tr>
<tr>
<td>PT-1</td>
<td>$19.39</td>
<td>(HST Region 5 – Worcester)</td>
</tr>
<tr>
<td>PBSTM</td>
<td>$25.80</td>
<td>(patrons pay only $2.25 per trip)</td>
</tr>
</tbody>
</table>

WRTA’s average trip length is 3.3 miles.

Based on the assumptions related with patients’ frequency of visits and costs associated by mode, we can estimate that the average out-of-pocket yearly expenses for those patients that use transit for one-way trip paying a single-fare is $1.2M. A round trip will be double the amount, $2.4M.

If the One-Day Pass is used the average annual patient’s out-of-pocket expense in transit is $2.8M, or $67.48 per person.
**BUSINESS MODEL**

- Develop as an **Open-Source** software in collaboration with **Cambridge Systematics (CamSys)**

- The 1-Click open source platform developed by **CamSys** has a community of users in **6 states**, a good starting point

- CamSys can develop a “beta” deployment of Smart Transit System (unsupported not hosted by CamSys) for a minimum of about **$150K-$200K**. Functionalities get better with cost.

- Participating agencies (hospital) pay for annual supporting and maintenance cost of the order **$12,000-$36,000**

- Background Research on transit partnership and survey cost for each hospital is of the order of **$20,000**

- Approximate cost of piloting the product for at least 3 hospitals is about $72,000 (hosting + supporting + maintainance cost)

- **Total funding requested for**: $(200,000 + 60,000 + 72,000 + 20,000) \approx $350,000-$400,000$
HOW MUCH MONEY FHC IS LOSING DUE TO MISSED APPOINTMENTS?

The FHC cited to have an average of 800 missed encounters in a monthly basis. Currently, the standard rate per person/visit is $154.

It is estimated that the FHC losses $1,478,400.00 million of dollars per year solely on missed appointments.

51% missed their appointments due to transportation, that translates to $739,200 loss specifically related to transportation problems.

In average, 180 patients use the WRTA fixed-route in a daily basis to go to FHC. If FHC pays $3.50 for a One-Day Pass for these patients, the daily expense will be $630. In a year (251 weekdays) the expense will reach $158,130.00.

This amount is only 10.7% of FHC loss due to missed appointments.
NEW OPPORTUNITIES AND COLLABORATIONS

Collaboration with **MassDoT** and **Cambridge Systematics** for next grant cycle

Tap into existing transit initiatives in Massachusetts like use of transit database, **Massrides** initiated by **GATRA** region, **MART**’s general public shuttle service

Implement a **MassHealth Smart Transit Card** where the day of the appointment a One-Day Pass is uploaded onto the beneficiaries card based on request for transportation using the Smart Transit app.

Participate on **UBER**’s Affiliate Program.