

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



OPPORTUNITY

Develop a dynamic scheduling software structure that would facilitate the incorporation of patient's transportation needs while scheduling their appointments

HOW BIG IS THE PROBLEM IN WORCESTER?



SOME FACTS

213,130

clinical encounters
per year.

85,000-105,000

patient visits per year.

300-400

patient visits per day.

80%

Pre-booked
appointments in
earlier visits

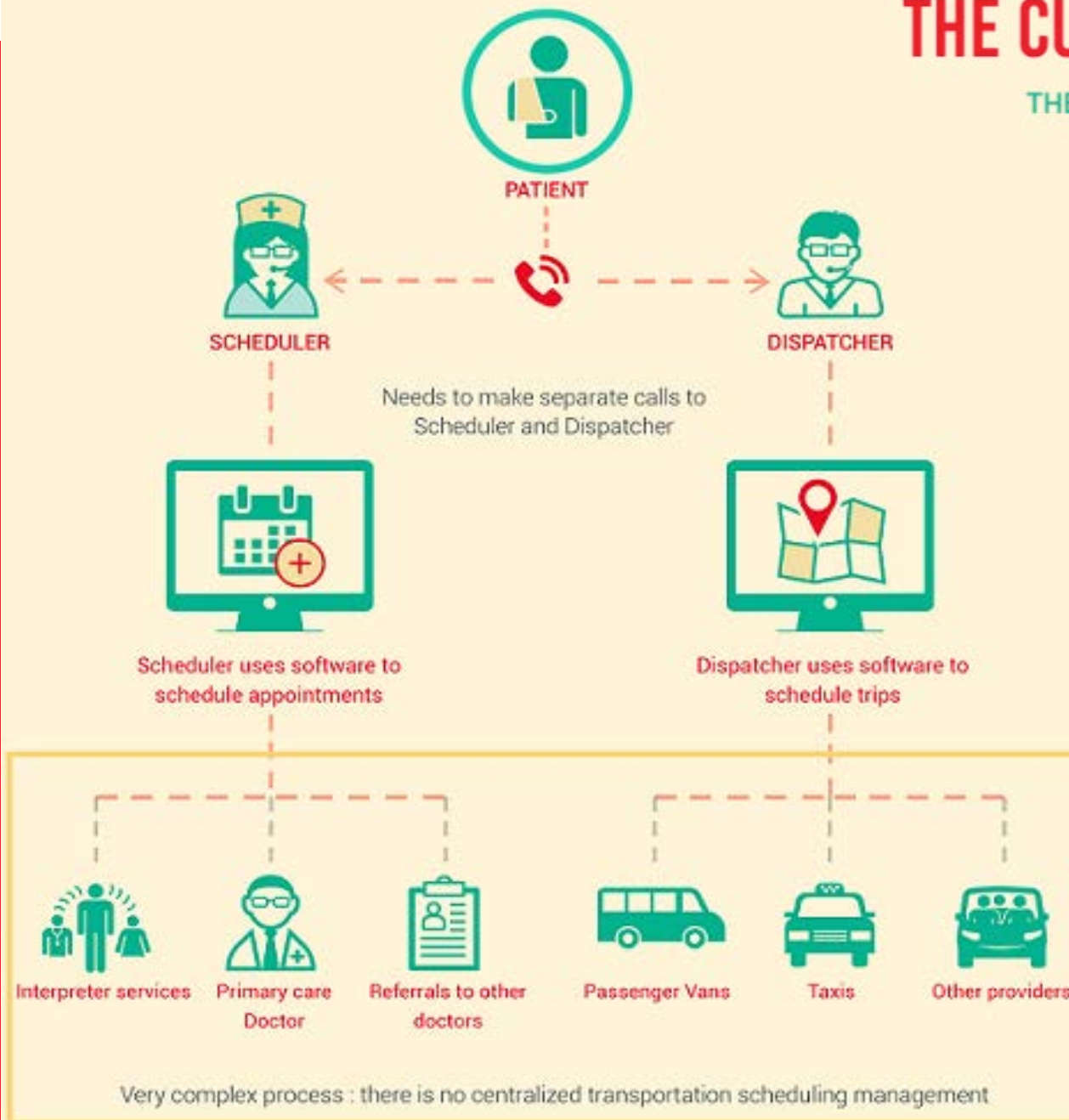
15%

Rate of missed
Appointments



THE CURRENT SCENARIO

THE PATIENTS' PERSPECTIVE



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.



FUNDING AND SUPPORT

Collaboration



Funding



Support



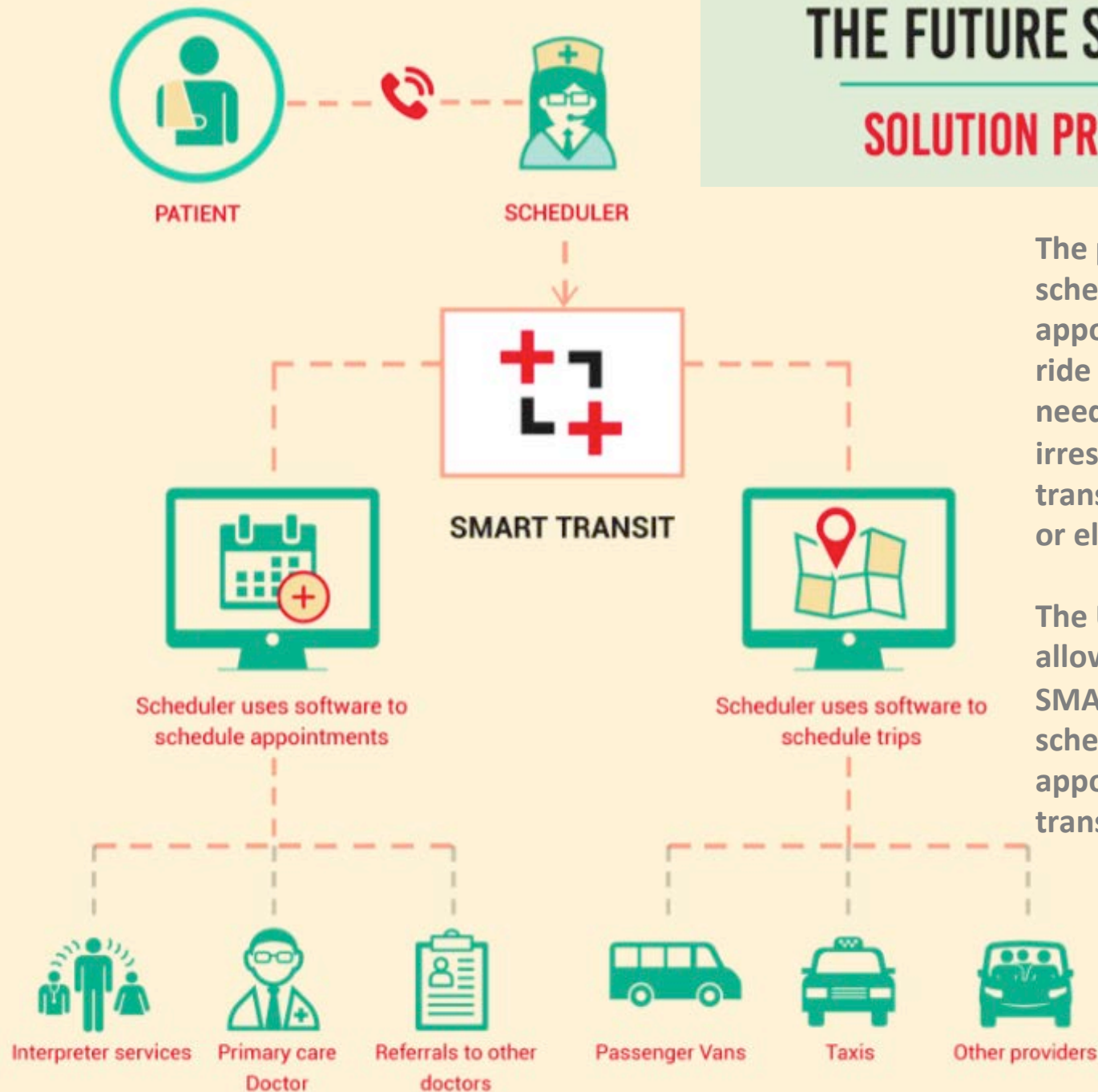
Future Collaborations





THE FUTURE SCENARIO

SOLUTION PROPOSED



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



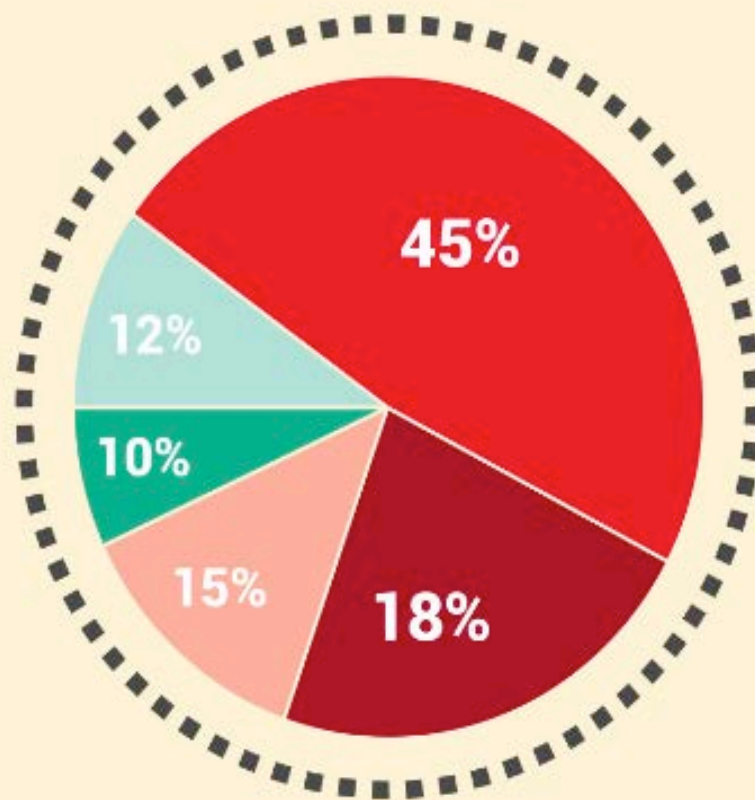
15 % Share a ride with a friend



10 % Use a taxi or livery service

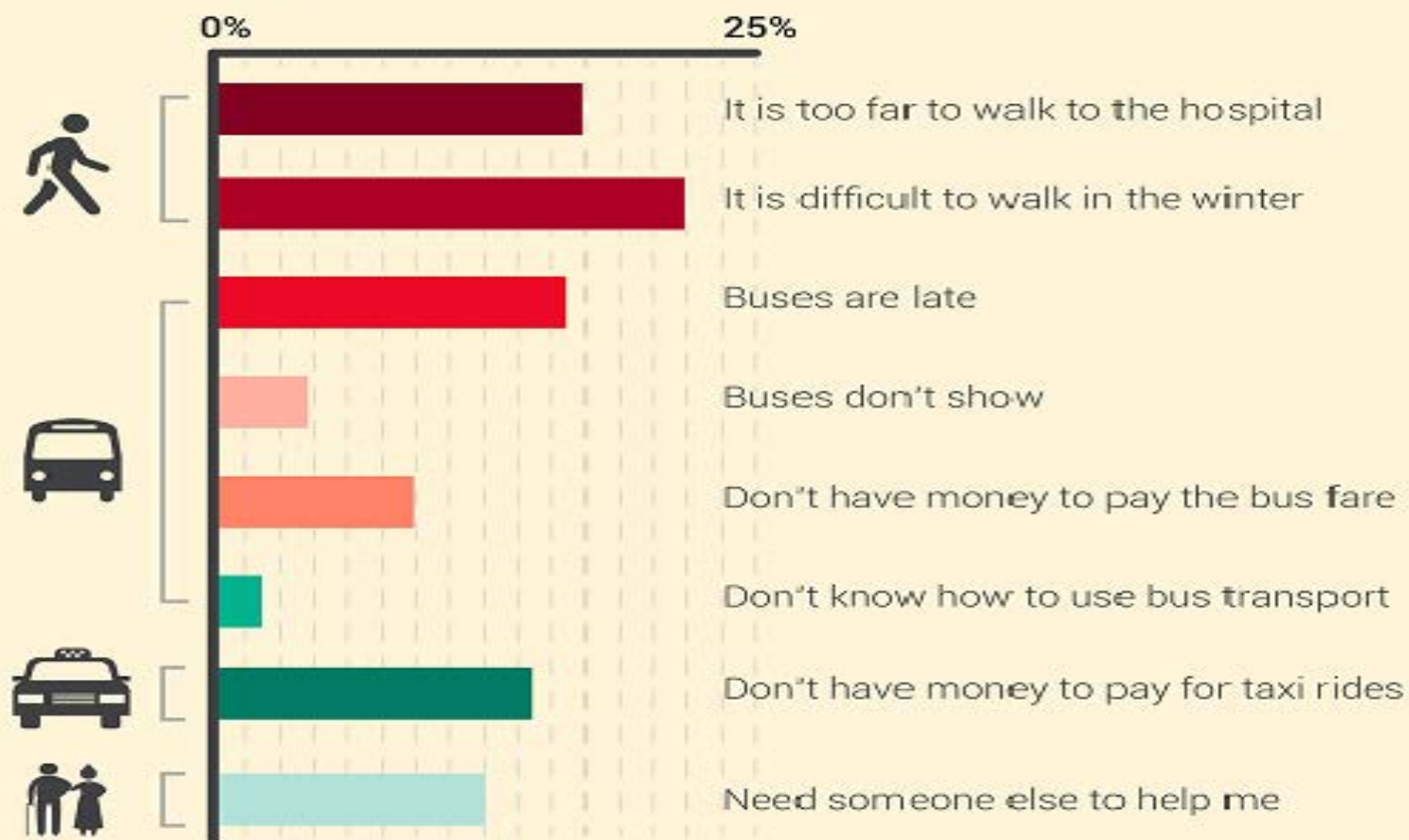


12 % Walk to the hospital



51% of respondents mentioned they had some type of transportation problem.

REASONS FOR TRANSPORT PROBLEMS



82%



Preferred to be 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.



HOW MUCH DOES IT COST A 3-MILE ONE-WAY TRIP TO THE FHC BY MODE?



MASSACHUSETTS

In **FY14** average transportation cost for MassHealth transportation benefit was **\$17.57** per trip.

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.

WRTA	\$1.50 (Single Fare)
Car	\$1.71 (IRS Standard Mileage Rates)
WRTA	\$3.50 (One Day Pass)
Uber	\$8.07 (Booking fee and tip included)
Taxi	\$10.88 (Taxi Fare Finder)
PT-1	\$19.39 (HST Region 5 – Worcester)
PBSTM	\$25.80 (patrons pay only \$2.25 per trip)

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 atleast 3 hospitals is about \$ 72,000 (hosting +supporting + maintainance cost)
- **Total funding requested for : $\$(200,000 + 60,000 + 72,000 + 20,000) \approx \$350,000-\$400,00$**



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 COLABORATIONS



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 unto the beneficiaries card based on request for transportation using the Smart Transit app.



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