**How-To Guides**

TABLE OF CONTENTS Pg.

1. Interactive User Journey Map……………………………………………………………..…..1
2. Local Transit App and App Patches…………………………………………………...…...…2
3. Physical Signage and Kiosks…………………………………………………………..……...3
4. Transit Difficulty Map and Analytical Tool…………………………………………...………..4

**User Journey Map**

How-To Guide

What it is

The User Journey Map is an interactive tool that allows City Planners to simulate the various experiences of public transit users in Norwalk, Connecticut.

What it’s good for

This tool can be used to identify gaps and weaknesses in the city’s public transit and wayfinding infrastructure, which can be used to inform future development opportunities and improvements.

How to use it

1. Access the tool (to identify gaps) at [https://zingtree.com/host.php?tree\_id=761981665](https://zingtree.com/host.php?tree_id=761981665#2).
2. In order to modify or edit the tool, log in using your norwalk email (you will be added as administrators for this tool). The link to login is:

<https://zingtree.com/login.php?l=25&checked=1&alert=info&msg=Please+log+in.&mh=f64ea7e8df15a9a414070f7f43f3420a&start=%2Flogin.php>

1. Use the editor tool to add, subtract, or change slides to better reflect the reality in Norwalk.

Source files and documentation

* It is a basic decision tree that is laid out in terms of a form to a user. Here is a basic tutorial if you want to learn how it works : <https://zingtree.com/tutorials.php>
* If anyone wants to modify the existing tree, you can modify the same at <https://zingtree.com/tree/overview-simple.php?this_project_id=761981665>

For any questions, contact Deepak Chawla at [dchawla0708@gmail.com](mailto:dchawla0708@gmail.com).

**Local Transit App & App Patches**

How-To Guide

What it is

Design recommendations to enhance consumer experience with Wheels2U, the ride booking app for subsidized microtransit within the city of Norwalk.

What it’s good for

Wheels2U is the only way to hail microtransit in Norwalk. The service is pilot tested in two areas, during specific times of the day. Wheels2U is used to improve accessibility to public transit in certain areas in Norwalk.

Recommendations for development

Recommendations are suggested keeping the idea of enhancing user experience in mind.

1. Highlight the fact that the ride is FREE!

In his book *Predictably Irrational*, behavioural economist Dan Ariely suggests that FREE! is more powerful than any rational economic analysis would suggest. If one wants to sell more of something, use this power. Currently when we open the app, we do not see the mention of the fact it is costs the consumer zero dollars. We suggest increasing marketing of the fact that it is free (via advertisements and mentions on each Norwalk website and in the app itself) to get more people to try it.

1. Giving consumers a choice - putting power back in the hands of the people

Currently, 24.3% of the Norwalk population is Hispanic. Giving consumers more power in deciding how to interact with the systems by increasing the number of languages they can communicate in, will greatly enhance consumer experience.

1. Integrating different modes of transportation in one app

It is inconvenient to open three different websites/apps to decide how will one travel from source to destination. Similar to Google maps where the journey from source to destination is shown as a combination of different transit options, Wheels2U can be layered with public transit maps and ride sharing routes.

1. Integrating with Google Maps

Similar to Uber and Lyft, Wheels2U can be integrated with Google maps within Norwalk. Local ads can also be run on Google or Waze.

For any questions, contact Mansi Panchamia at [mpancham@andrew.cmu.edu](mailto:mpancham@andrew.cmu.edu).

**Physical Signage & Kiosks**

How-To Guide

What it is

A design concept for physical signage and kiosks to support wayfinding in Norwalk, Connecticut.

What it’s good for

Physical signage was determined to be a necessary supplement to smartphone-based navigation and wayfinding tools, especially in first mile, last mile scenarios. A paradigm use case would be helping residents navigate from a parking lot or public transit depot downtown to various destinations in that same district.

Also, it was estimated that 15% of the Norwalk population may not own smartphones, making them entirely dependent on offline navigation tools like physical maps, signs and kiosks.

Recommendations for development

1. Identify priority locations for signage by using the User Journey Map tool (run the simulation using actual origins and destinations, as indicated by the instructions above).
2. Install larger kiosks in the natural center of each major district (as determined by current use patterns).
3. Have each kiosk display a mall-style directory of the entire district in which it’s located, indicating the locations of (at minimum) all major commercial and cultural assets.
4. Draw the district directories from the viewpoint of accessibility to users. To do this, use ArcGIS Pro or other GIS software to analyze the outer boundaries of perceived accessibility\* from the district’s center.

\***Note**: The “accessible region” is defined as the set of destinations satisfying all of the relevant accessibility criteria, including maximum total distance, maximum travel time, maximum total walking distance, maximum number of transfers, and maximum cost, among others.

Source files and documentation

* Prototype Slide Deck (file)
* MVP Slide Deck (file)
* GIS\_Project\_Files (folder) - includes project file as well as all component shapefiles.

For any questions, contact Patrick Campbell at [pcampbe2@andrew.cmu.edu](mailto:pcampbe2@andrew.cmu.edu).

**Transit Difficult Map & Analytical Tool**

How-To Guide

What it is

An interactive map that allows planners and decision-makers to visualize mobility issues for individuals reliant on public transportation in Norwalk.

What it’s good for

This tool can be used to identify areas of Norwalk that are underserved by existing public transit infrastructure and learn demographic information about those areas.

Possible insights include:

* Identifying areas where public transit options vary widely between weekdays and weekends
* Learning the minority percentage, median income, and percentage of senior citizens in an area with limited transit options
* Discover streets commonly used to access destinations of interest from

How to use it

1. Access the tool at <https://dkori.shinyapps.io/Norwalk_Transit_Map/>.
2. Select a destination and departure time of interest on the sidebar.
3. Choose a metric of interest for evaluating transportation difficulty (total trip time, walking distance between stops, or the number of transfers needed)
4. Click on a dot of interest to reveal the Google Maps trip details.
5. Click between dots to reveal demographic information
6. Add in the Wheels2U service area or fixed-route lines as needed

Source files and documentation

* The code used to retrieve the underlying data and build this tool can be found at <https://github.com/dkori/Norwalk_Transportation>. The tool was developed using a free open source programming language called R.
* Trip data was obtained from the [Google Maps directions API](https://developers.google.com/maps/documentation/directions/start) for October of 2019. Demographic information comes from the 2017 US Census American Community Survey 5-year estimates. Fixed-line routes and the Wheels2U service area were provided by the City of Norwalk.

For any questions, contact Devraj Kori at [dave.kori@gmail.com](mailto:dave.kori@gmail.com).