



Introducing Assumption Testing

February 9, 2021

Community Mobility Design Challenge 2020

Today's Agenda

Schedule Reminders

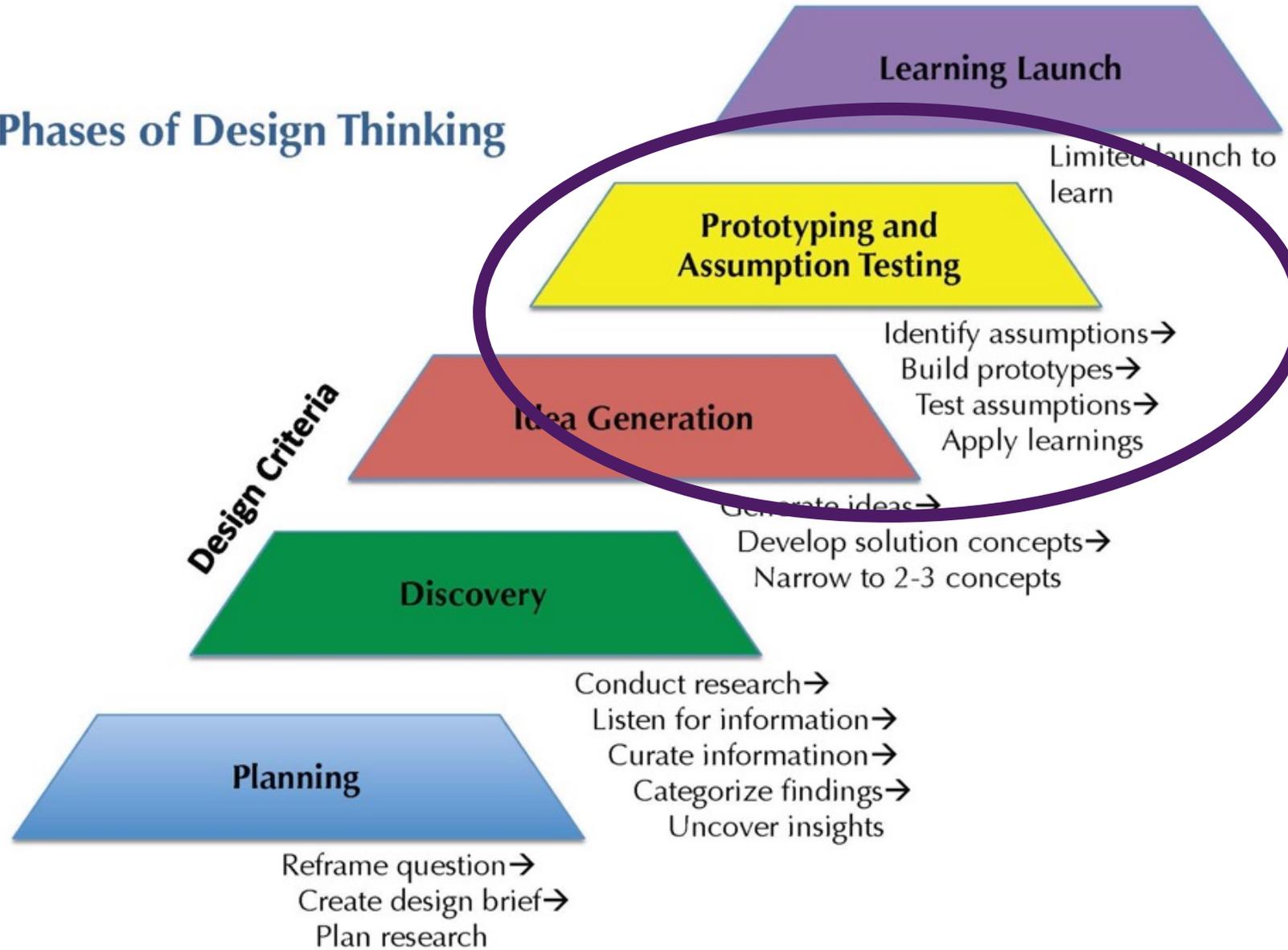
Intro to Assumption Testing and Prototyping

Team Sharing

The Road Ahead

- Feb & Mar – Assumption Testing and Prototyping
- Early April – Create Team Pitch
- April 15 – Team Pitch Session
- May 15 – Final Monthly Report and Invoice Due

Phases of Design Thinking

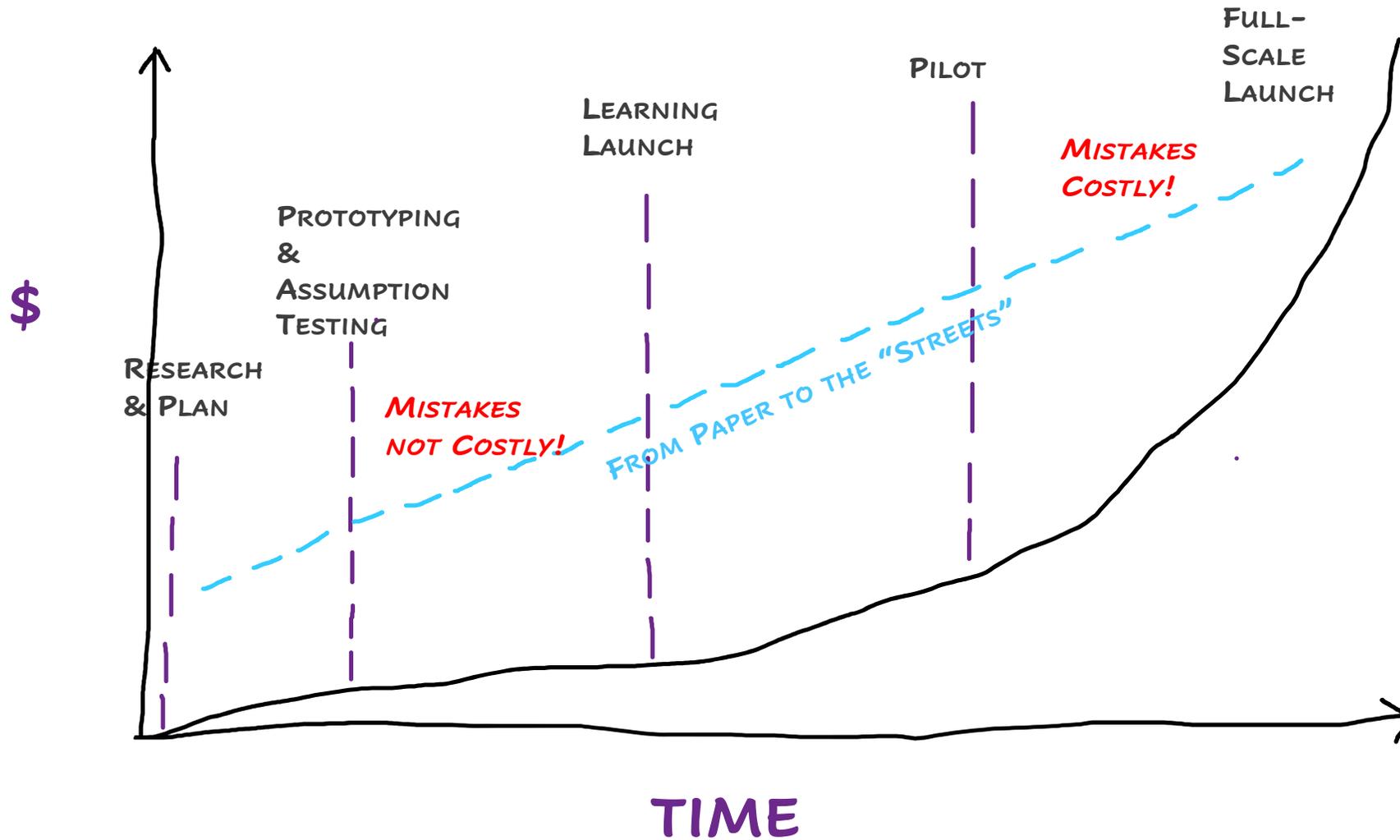


What do we mean by “Assumption Testing?”

Your solution concepts are full of **assumptions**. These are guesses on things like customer's behavior, funding availability, or even how service will look once its up and running. We call these guesses **hypotheses**, just like in a science experiment. Now we need to test these **hypotheses** or **assumptions**.



Assumption Testing *De-Risks* Your Solution



Identifying Assumptions

We MUST test
assumptions in
three areas

Customer desirability

Will they want to use it?

Does it meet their needs?

Operational Feasibility

Can we make it work?

Do we have the (non-financial) resources to implement it?

Financial Viability

Can we fund this over the long term?

Will "they" (customers, funders) be willing to pay for it?

Each assumption will be a short sentence that states your belief about some aspect of your solution and what needs to happen to make it true.

For “X” feature of our solution to work, we are assuming “Y” is true.

Examples of Assumptions

- **Customer desirability:** For our food delivery service to work, we are assuming people will accept others choosing their food for them.
- **Operational feasibility:** For group trips to medical appointments to work, we are assuming the clinic is willing to schedule trips for people from our community on the same day
- **Financial viability:** For the new community to contribute funding to our expanded transit service, we are assuming the community residents will see value in the service.

As you see, each hypothesis needs to be specific enough to test.

We only test “Make or Break” assumptions – those that are so integral to our solution that if they proved false, our entire solution would prove *unworkable*

We will send a worksheet to help you through this process.

Solution 1: (insert title)

Perspective	Assumptions	Testing Method	Testing Responsibility
	What are all the things you are assuming to be true about the solution? List them out below as affirmative statements from each perspective. Be sure to include somewhere in your statement a reference to your target audience (e.g., "Our target audience will. . . ." or "This service will allow our target audience to . . .")	Consider how you will test the top 5 make or break assumptions. This can be done through a thought experiment (i.e. research, analytics, reviews of past projects that replicate a specific aspect of your solution) or through an in-market experiment (sharing prototypes with customers and partners to allow feedback)	Who is going to be responsible for the test, and by when?
Customer Desirability			
Operational Feasibility			
Financial Viability			

Testing Assumptions

Two Ways to Test Assumptions

1. Thought experiments – Use logic, data, and research

Ex: Find other communities that initiated a food delivery service and determine how well it went

Ex: We can find enough drivers to implement our expanded service

Ex: Our community is amenable to a .5% increase in sales tax to fund projects for the community good (what have they done in the past?)

Ex: Our county commissioners are supportive of our solution (past statements)



Two Ways to Test Assumptions

2. In -person experiments – Interact with customers, funders, stakeholders using **prototypes**



What is a Prototype?

- Simply, a visual representation of your solution concept.
- At this stage, our prototypes should be a rough draft. They should be easy to make, such as sketches or storyboards, or other “low-fidelity” prototypes. (this is where you can use your grant \$)

Co-creation with “customers”

“ We are designing for them, not ourselves ”

- The customer has to be able to see themselves in the prototype to give you the best feedback
- Give them *s p a c e* to engage with the ideas and leave their additions and comments.
- Co-creation allows us to find what resonates with users

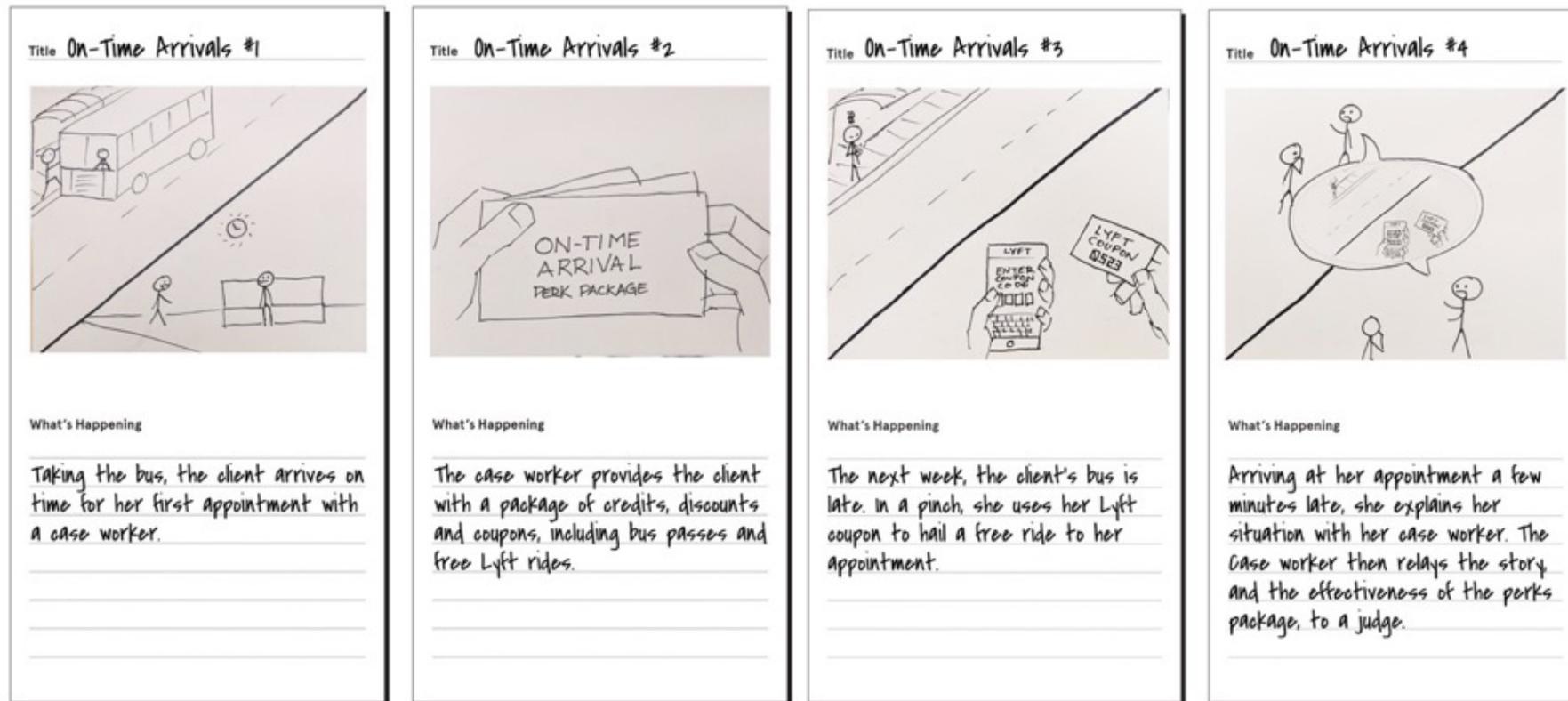
What do Prototypes look like?

Sketches can help make ideas concrete.

<p>DEVIATED FIXED ROUTE SHUTTLE SERVICE AVAILABLE TO <u>NORTH COUNTY SENIORS</u> PROVIDING TRANSPORTATION INTO BATTLE GROUND TO ACCESS SERVICES AND SOCIALIZATION.</p> <p>RURAL NORTH COUNTY: YACOLT AMBOY ALL SPACES IN-BETWEEN "BATTLE GROUND"</p> <p>MEDICAL APPTS. - GROCERY SHOPPING - SOCIALIZATION - POST OFFICE - BANK FOOD BANK - LIBRARY - HAIR DRESSER - COMMUNITY CENTER - MOVIE THEATER</p>	<p><u>NORTH CLARK COUNTY</u></p>  <p>BATTLE GROUND DIFFERENT SERVICE AREAS PROVIDE SERVICE ON DIFFERENT DAYS OF THE WEEK ONE-ROUND TRIP PER DAY -MORNING IN - AFTERNOON OUT</p>	<p>VOLUNTEER DRIVERS AVAILABLE FOR TRIPS FURTHER THAN BATTLE GROUND!</p> 
<p><u>C-TRAN</u> FOR TRIPS WITHIN BATTLE GROUND TO ACCESS MULTIPLE LOCATIONS IN ONE DAY!</p>  <p>TRAVEL TRAINERS AVAILABLE TO HELP LEARN HOW TO RIDE THE BUS.</p>	<p><u>YOU OR HEALTHCARE PROVIDER</u> CAN CALL AND RESERVE A SEAT ON THE VEHICLE.</p>  <p>360-555-5555</p> <p>FOR A FULL-DAY TRIP, WITH A GUARANTEED RETURN TRIP HOME.</p>	<p>PROVIDES ACCESS TO LOCAL SERVICES AND PROMOTES SOCIALIZATION!</p>  <p>DEDICATED SOCIALIZATION SPACE FOR RIDERS TO USE BETWEEN TRIPS AND DESTINATIONS.</p>

What do Prototypes look like?

Storyboards put the solution in context and help tell the whole story.



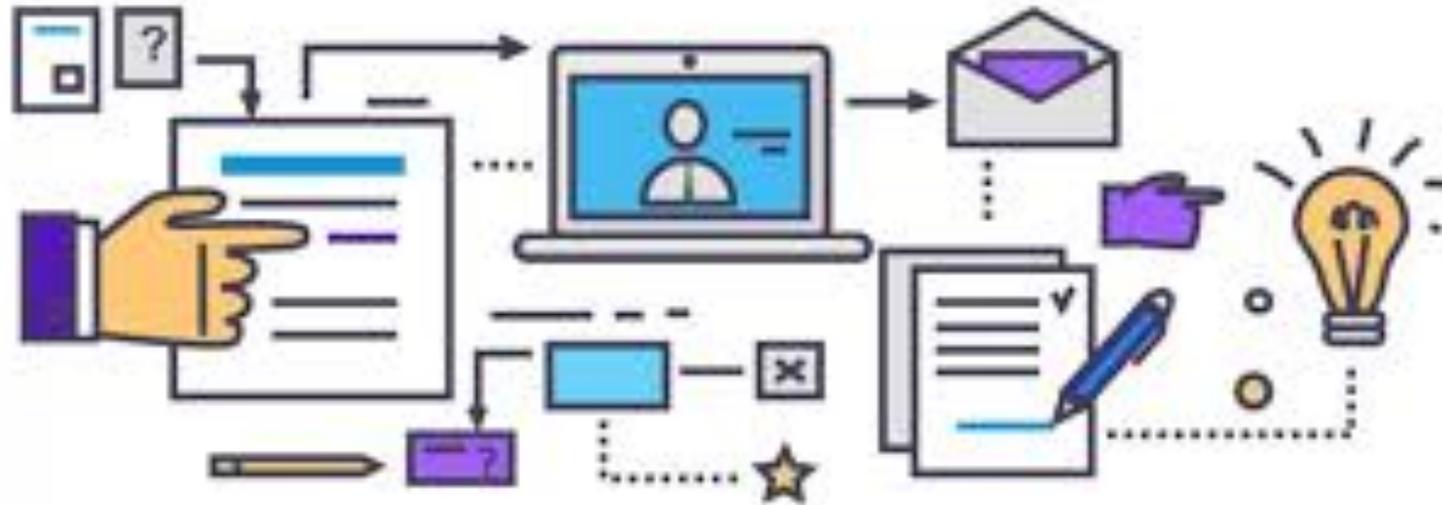
What do Prototypes look like?

Flow charts can show how a customer moves through the various stages of a solution concept



What do Prototypes look like?

- **Service blueprints** roughly lay out the elements of a service, identifying all of the moving parts needed for a solution concept to function.



Tips for Prototyping

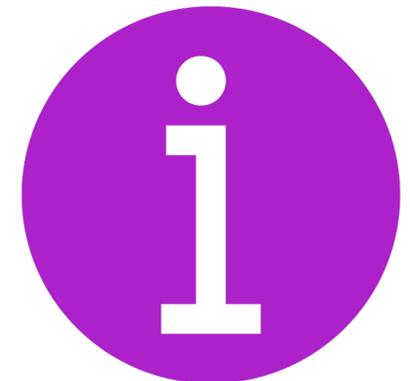
- Show, don't Tell. The best way to get feedback without your own biases impacting that feedback is to show your prototype and listen, don't try to explain any of your ideas that are not apparent in the prototype.
- Talk 20% of the time, listen 80% of the time.
- Create a no-selling zone. You are testing the potential of your idea—not convincing them it is a good idea.
- Your idea is not precious or even right – the feedback is.



Tips for Prototyping

Set the context for your customer:

“Through our research, we have come to realize that _____ is an issue, so we came up with an idea to help solve that issue. What you see in front of you represents part/all of our idea. It is of course still a work in progress. We would love to get your feedback on what you see and how you interpret this. If you have any ideas to add to this, we'd love to hear them too!”



Choose the type of prototype that will best resonance with your testing

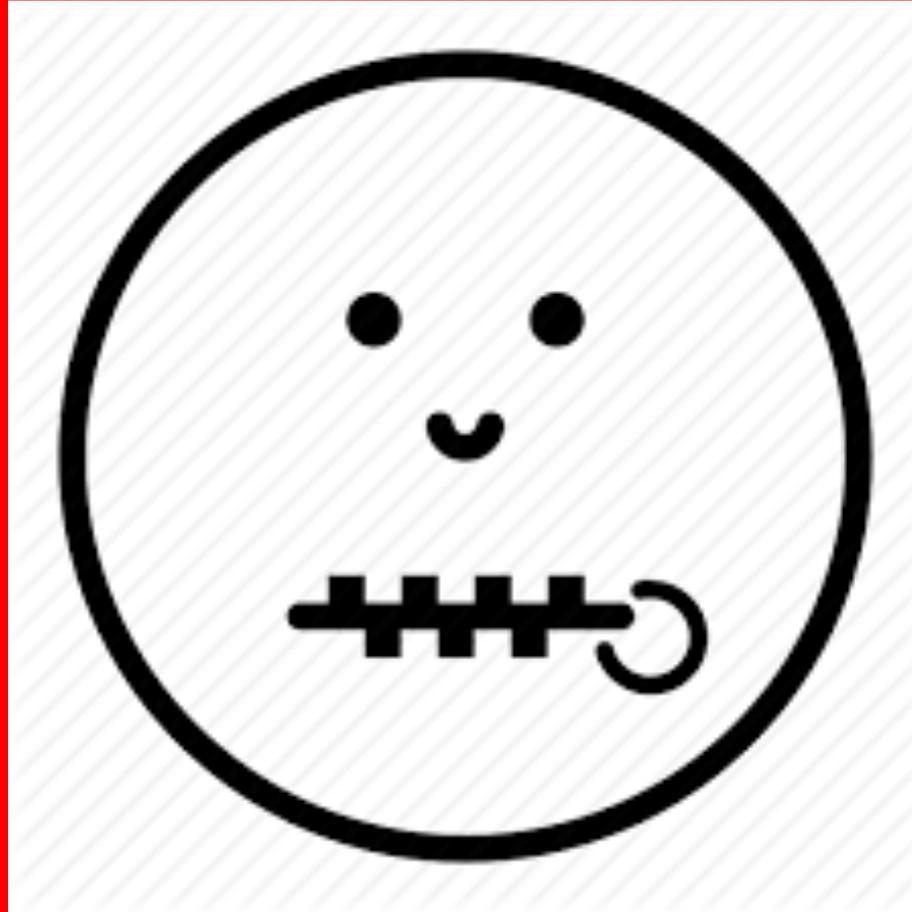
Individual?

Community leader

Funder?

Potential vendors?

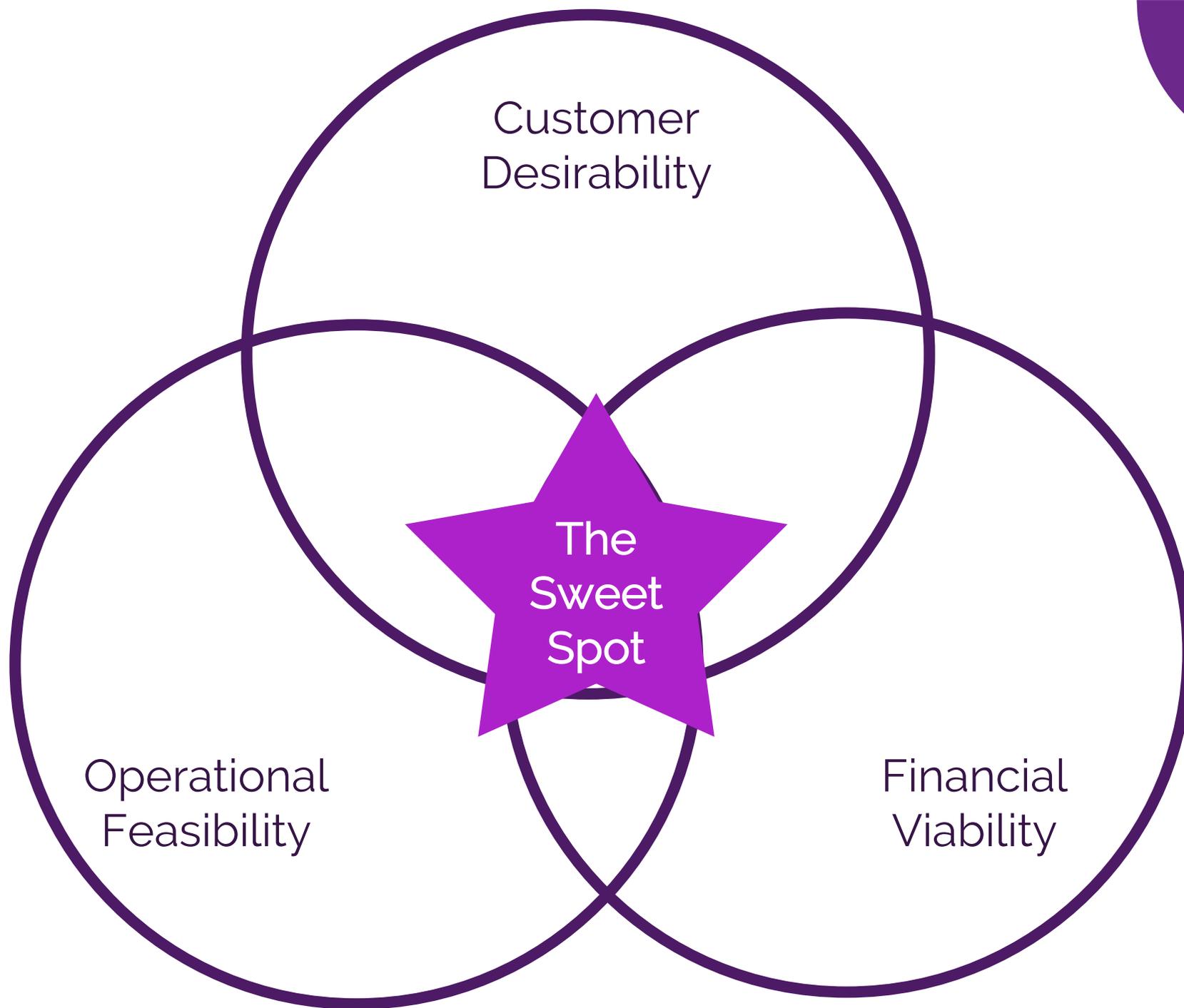
Then . . .



Tips for Prototyping

- Debrief your customer:
 - “While you were doing X, what was going through your mind?”
 - “You seemed (puzzled/amused/delighted) at one point. Can you tell me more about what you were thinking?”
 - “What would you change about this idea?”





Questions?

Team Updates:

- Ware County, GA
- Perry County, MO
- North Charleston, SC
- Botetourt County, VA

Ware County, GA

Focus question: How can we improve access to work and school opportunities for low income residents of Ware County, GA?

Coordinated Rideshare Network

Organize the current system of carpooling to increase use. An incentive system would be established for drivers and could include direct compensation, vouchers for routine maintenance or repairs, or some type of discount for vehicle upgrades.

Ware County, GA

Focus question: How can we improve access to work and school opportunities for low income residents of Ware County, GA?

Community Network

Establish transportation routes throughout the county utilizing buses and vans that are currently in use by the faith-based and non-profit community. Local employers will be approached to financially support the system after receiving information on the direct benefits for their business

Ware County, GA

Focus question: How can we improve access to work and school opportunities for low income residents of Ware County, GA?

Transportation Portal App 2.0

Create an App to enhance the use of the current MIDS system and possible extend for use with other transit options. The App will be user friendly and features benefits for users that could include multi-use discounts, friend referrals/invites, and real-time information and scheduling. Additionally, the App could include linkages to other social services or resources throughout the community.

Perry County, MO

Focus question: How can we improve access to affordable transportation for Perry County residents age 15 - 59 seeking economic opportunities who are without personal transportation options?

Ambassador System:

With the financial support from the City of Perryville, Perry County, local and regional service agencies, a deviated fixed route system would be developed. This system will provide service with 3-4 non CDL 14 passenger vans. There will be designated stops that riders will be able to board and deboard the buses. Routes will include stops based on employer shift times as well as hours of operation for local agencies, tourism sites, churches and most traveled to businesses including Community Counseling Center, Post office, Hospital, Walmart, Vietnam Memorial, Perry Park Center, Food Pantries and other data identified locations. Riders will be able to purchase rider passes/tickets through a phone app, website or by paying cash to the driver of the van. Buses will connect County and city riders via transfer. We will ask for volunteer transit ambassadors (individuals with disabilities, elderly) to be present on specified buses and times to greet, advise and assist individuals in learning the system and having an enjoyable experience. These volunteers will be given free rides in exchange for their agreement to be Ambassadors. Ambassadors will also distribute coupons, tourism and event information given by local entities and businesses. Ambassadors will also be available to collect rider data and to distribute and collect rider surveys. Ambassadors will offer a friendly, helpful face for new and existing riders. Operations hours will be determined based on rider volume and could be adjusted for special, local events if necessary. The development of a phone app will show real time locations of buses to better assist riders with stop times.

Perry County, MO

Focus question: How can we improve access to affordable transportation for Perry County residents age 15 - 59 seeking economic opportunities who are without personal transportation options?

Deviated Fixed Route:

The current transit system will expand existing service by developing a deviated fixed route system for all Perry County residents. With the help of both the City of Perryville and Perry County, as well as local employers and agencies, fares could be low or free for all riders making the system an affordable option. There will be designated stops that riders will be able to board and deboard the buses. Routes will include stops based on employer shift times as well as hours of operation for local agencies, tourism sites, churches and most traveled to businesses including Community Counseling Center, Post office, Hospital, Walmart, Vietnam Memorial, Perry Park Center, Food Pantries and other data identified locations. Riders could prepay, schedule rides, and see where the buses are in real time through a phone app. Local businesses could be given the option to build bus shelters along the route for their advertising purposes.

Perry County, MO

Focus question: How can we improve access to affordable transportation for Perry County residents age 15 - 59 seeking economic opportunities who are without personal transportation options?

Community Improvement Project – All Modes of Transportation

Perry County, the City of Perryville, local businesses, and agencies would apply for community grant opportunity. These grants would subsidize the cost to expand bike lanes, sidewalks, pedestrian crosswalks, and bus transit operations. Funds would also allow for the development of an app that will allow business to buy advertisements, offer information to visitors, and provide transportation resources. This community-based app will also send updates about community events. The app would also allow information about job openings at local employers for a small fee to the employer. The app would allow links to bus routes and stop times and offer scheduling opportunities. With continued grant opportunities, Perry County residents could continue to expand all modes of transportation. Since this project ties all of Perry county together a ride share section could be established inside the app to allow carpool opportunities. This could also help with ride share to food pantries and other social resources. Offer education opportunities on the ride share program to the community along with participant vetting process to ensure safety for all. This concept focuses on community growth while filling in the transportation barrier with multiple modes of transportation expansion.

North Charleston, SC

Focus Question: How can we help low-income residents of communities in North Charleston access healthy food despite having limited transportation options and no grocery stores within two miles?

Subsidized Grocery Delivery Service

This concept would incorporate grocery stores that have internally operated delivery services as well as existing third-party grocery delivery services such as Instacart. A sustainable funding source would be identified and then used to provide individuals in the target community with subsidized grocery delivery fares either on a per delivery basis or for the cost of a monthly or yearly subscription service. Donations would also be accepted as a possible source of funding. This concept would include an in-person kiosk for people who are unbanked, lack access to the internet, or are not comfortable using technology to place orders.

North Charleston, SC

Focus Question: How can we help low-income residents of communities in North Charleston access healthy food despite having limited transportation options and no grocery stores within two miles?

Food Lockers Option A

Locate food lockers (both refrigerated and non-refrigerated) in locations that have been identified as transportation nodes (i.e. stops identified for the Lowcountry Rapid Transit system, where there will be approximately 12 stops in or around the target community). Orders for food delivery to the food lockers could be placed through an app, website, or by phone call. The kiosks would also provide a cash payment option for unbanked individuals. The concept would be designed to make it convenient for riders who already would plan to come to the stop location to meet their transportation needs and it would also ensure a safe environment for the food lockers because there would be security in place at these locations.

North Charleston, SC

Focus Question: How can we help low-income residents of communities in North Charleston access healthy food despite having limited transportation options and no grocery stores within two miles?

Food Lockers Option B:

This concept is another variation of Concept 2 with the key distinction being the difference in the location of the food lockers. For this concept, the food lockers would be placed at convenient locations within neighborhoods in the target community. This concept would also incorporate the Lowcountry Go application, enabling individuals to arrange ridesharing to and from the food locker locations.

Botetourt County, VA

Focus question: How can we provide transportation access to healthcare for elderly and/or disabled people in rural Botetourt County?

Weekly Eagle Rock-Roanoke Transport

The Botetourt Van Service will provide a bi-weekly trip (ex. every Wednesday) with an established route that from Eagle Rock to Roanoke for rural seniors and people with disabilities, coordinated with specialists' schedules. The service will pick up riders at a central location or at home for those who can't travel to the pick-up site. The exact locations in Roanoke that it travels to each week will depend on the medical appointments and services that the riders need that week. This will be funded and promoted in part through business sponsorships. This service will help build community and create a sense of independence because there will be multiple riders on the van.

Botetourt County, VA

Focus question: How can we provide transportation access to healthcare for elderly and/or disabled people in rural Botetourt County?

Replacing Trips with Tech

We will initiate a drone and tele-health research program with Virginia Tech, replacing current van trips with prescription delivery by drone and creating tele-health hubs at community centers, churches, volunteer homes, or other local sites. Delivering services by technology can free up resources to provide transportation to services that can't be replaced by tech. To strengthen community, a volunteer corps will visit participants' homes bi-weekly and transport participants to errands.

Botetourt County, VA

Focus question: How can we provide transportation access to healthcare for elderly and/or disabled people in rural Botetourt County?

Creating Community Connection

We will create a map of customers and providers, implement a new scheduling technology, and develop a strategic marketing and rider-engagement plan. The customer map will help us better understand the needs and current gaps in service. An inventory of providers in Botetourt, Alleghany, and Rock Bridge Counties will allow riders to be seen closer to home and reduce travel time. A new scheduling technology will allow for scheduling more than one rider at a time. A strategic marketing and rider-engagement plan will reach seniors, specifically in the Eagle Rock and Buchanan areas, through social media, phone, e-mail, and engage with riders continuously to create community and connection. Results will be shared with county officials for their better understanding of the needs of riders.

Reporting Reminders:

- Next report due Feb 16 (after President's Day Holiday)
- New Reporting Phase Specific Sections to fill out
For each of your solutions, score them on a 1-5 scale for our three categories
 - 1** = We are unsure if the solution is desirable/feasible/viable
 - 2** = Our learnings, to date, indicate the solution may be desirable/feasible/viable but we need to learn more
 - 3** = Our learnings to date indicate the solution is desirable/feasible/viable desirable to some
 - 4** = Our learnings to date indicate the solution is desirable/feasible/viable to most
 - 5** = Our learnings to date indicate the solution is desirable/feasible/viable to all our customer groups

As you go forward, please send any copies or images of any prototypes.

Reminders:

- Feb 15 - Monthly Report due
- Apr 15 - Team Pitch Session
- May 15 - Final Report due

Tasks for team meetings

1. Surface Assumptions
2. Determine which are make or break
3. Decide if solution/feature will be tested with thought experiment/in-person testing
4. Design test
5. Develop prototypes
6. Conduct tests
7. Bring back results of tests to team meeting
8. Decide on the one, chosen concept

