A Human-Centered Design Approach to Enhancing Excellence in Customer Service

Prepared for: GoDurham Transit, May 2020
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Meet the Team

The members of the GoDurham Student Team were separated into two groups to gather and synthesize feedback from GoDurham customers and employees – the Customer Experience (CX) Team and the Employee Experience (EX) Team.

"Working with GoDurham to help continue its pursuit of customer service excellence has been an insightful experience."
- Duke University Graduate Student Team

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Executive Summary

GoDurham makes customer service its highest priority, weaving this value into each and every interaction with its customer base. GoDurham saw the potential in human-centered design when they approached our team in January 2020 to ask, **"How can GoDurham improve the customer experience of Durham public transportation?"** The storybook that follows documents our journey in answering this question.

DISCOVER

Our first step was to **Discover** the customer and employee journeys, learning and capturing stories from those who rely on and work for GoDurham. In-depth interviews with customers at Durham Station and at bus stops allowed us to understand the pain points and bright spots of their ride experience. Customers repeatedly spoke to the frustration they experienced when a bus arrives late and they cannot access information about when it will arrive. Our insights from employees showed a similar trend, as they described a gap between available information and customer understanding. These dual insights led us to *wait time for the bus* as the **Moment that Mattered**.

DESIGN

Next, we worked to **Design** a solution that would give customers the information they needed and alleviate frustration for users and employees alike. After developing three prototypes based on our Discover insights, we returned to customers and employees to once again engage their feedback.

Executive Summary

Having repeatedly heard that high-tech tools have not been effective, we arrived at a final solution prototype: an enhanced bus schedule to be displayed at high-volume stops that included enlarged bus arrival times, during peak working hours, and a QR code to connect customers to real-time bus arrival information. With this solution, we envision a transformed experience in which customers know where their bus is at all times.

DELIVER + MEASURE

Our process culminated with **Deliver + Measure** in which we charted the roadmap for GoDurham's adoption of our solution. In a six-month plan, we outline what will need to be done to (1) get stakeholder buy-in, (2) fund the pilot project, (3) create the enhanced schedules and QR codes, (4) track customer usage of the codes, (5) analyze results of the pilot, (6) share analytic insights with stakeholders, and (7) engage in ongoing impact assessment. We included concrete tools, questionnaires, and metrics that will allow GoDurham to obtain accurate information on the success of the solution. Finally, we offered insights for GoDurham beyond six months for how they can continue to elevate their customer experience.

We hope this storybook provides GoDurham with the tools they need to realize their ambitious goals for the customer experience and to continue their status as a leader in high-quality public transportation.
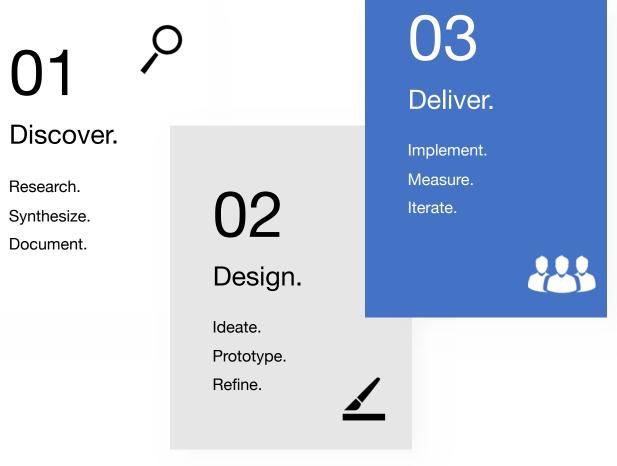
Using Human-Centered Design

Human-centered design (HCD) is a creative and iterative process for solving problems. When possible, every step of the process – from gaining insight into the problem to designing and testing solution prototypes – involves the end-user. By designing solutions tailored to address the needs of people experiencing a problem, HCD challenges the traditional approach of problem-solving that only involves management in the process.

01
Discover.

Research.
Synthesize.
Document.

02
Design.

Ideate.
Prototype.
Refine.

03
Deliver.

Implement.
Measure.
Iterate.

DISCOVER.

Organizational Overview

GoDurham's mission is to be the standard of excellence in the Triangle region for passenger transportation by providing safe, reliable, convenient and accessible transportation for the citizens and visitors of Durham.

GoDurham provides a critical service to the entire Durham region, especially for communities that are heavily dependent on public transit for their transportation needs. For most riders, the bus is the primary means by which they get to work, return home and complete important life events. Thus, a lot rides on GoDurham being an effective and reliable transit option.

GoDurham is also unique because it has the resources of a small-town transit agency but serves a much larger ridership than similarly sized agencies. As a result, its resources are stretched thin. Yet, for many employees at GoDurham, this challenge is a source of pride and it is the reason they chose to work there.
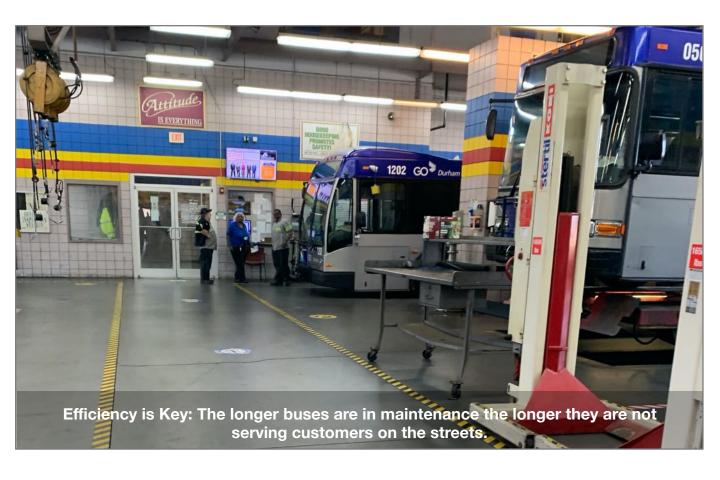
All Hands on Deck: A few currently used buses are kept in reserve at GoDurham's transit depot.

Efficiency is Key: The longer buses are in maintenance the longer they are not serving customers on the streets.

Project Overview

GoDurham's initial ask was **how can they improve the customer experience of Durham public transportation**. Our team interviewed customers and employees, and observed buses and bus stations to gain a deeper understanding of the customer experience.

Our research indicated that GoDurham customers care most about their wait experience. Within the wait phase, numerous issues can impact the customer experience including bus stop amenities, late or no-show buses, and lack of scheduling information. Most frequently, customers felt frustrated by not knowing when their bus was coming.

Consequently, we narrowed the initial broad scope of improving customer experience to: How might we **reduce feelings of frustration** for GoDurham customers waiting at a bus stop who are **unaware of transit schedule changes** in a way that allows them to efficiently **complete life's events and maintain a positive service perception?**

The Discover Process
FOR CUSTOMERS

We conducted **11 interviews** with GoDurham customers at places where they engage with GoDurham: at bus stops, on buses, and at Durham Station. In selecting our interviewees, we sought diverse perspectives from riders who are transit-dependent, transit-flexible, satisfied, dissatisfied, and disabled.

In the spirit of human-centered design, we pursued extended, emotionally focused conversations with the goal of understanding customers' stories and their journeys as GoDurham riders. Throughout our interviews, we sought to understand the bright spots and pain points that GoDurham riders encounter each day as they utilize the bus service.

In speaking to customers, we learned that bus rides for many customers can be a source of both joy and frustration. Riders expressed frustration that technology services available to them are not more user-friendly. However, GoDurham users also noted that, due to the strong sense of community on GoDurham buses, the ride can be a worthwhile experience in itself.

Key Theme 1: Tech Troubles

Customers expressed frustration about the technology services available to them, singling out the TransLoc Rider app as particularly problematic.

"[The app] said the bus would be there in 11 minutes. I get there, and that bus was no longer showing. I'm not sure what's happening with this app. You're tracking the bus, and then it just goes away. I don't understand why that technology can't work because with Uber and Lyft you get a notification."

Donna
GoDurham Customer

Key Theme 2: Cultural Connections

GoDurham customers feel a sense of community and connection with other riders. These relationships can make riding the bus a worthwhile experience in and of itself.

"In the past year or so, things have not gone my way. And I am forced to rely on public transportation. But you meet some fascinating people here. Durham's so cultural. And the bus magnetizes... it magnetizes these different cultures. You can run into people from India, Kenya, Japan. That's just how it is."

Terry
GoDurham Customer

The Discover Process
FOR EMPLOYEES

We conducted **7 interviews** with GoDurham employees in a variety of roles. We spoke to employees at the "front stage", those who deal directly with the customers, and those at the "backstage", those who interact with customers more indirectly.

Following human-centered design principles, our interviews dived deeply into the perceptions and emotions felt by GoDurham employees about the customer service and the customer experience. The goal of these interviews was to learn what employees considered bright spots and pain points in their respective roles and in GoDurham more generally.

We also wanted to understand what GoDurham employees viewed as customer needs and wants to compare it to what customers said to the CX Team. Using this information, we determined the areas of common frustration that was shared with customers to address these concerns in our design proposal.

Key Theme 3: Customer Conscious

GoDurham recognizes the importance of good customer service which is essential for providing high quality transportation services. Employees throughout the chain of command understand that success happens when the customers' needs are met. This value is doubly important for bus operators and GoDurham recruits prospective employees with this in mind.

"Personally, I feel like the driving could be taught. It's the personality that I'm looking for, someone that could handle themselves with the customers."

Nikita
GoDurham Employee

Key Theme 4: Resource Restrictions

GoDurham performs well in the face of severe resource constraints. While this is a source of pride, it can also be seen as a source of tension. Any new project must consider GoDurham's already strained resources and its institutional limitations.

"I think we're actually making some improvement but what are some of the other ideas of improving, a condition at stops for passengers where there doesn't require heavy investment?"

Brian

GoDurham Employee

A close up of the team synthesizing feedback from GoDurham customers and employees during the Discover phase.

Reliability

Technology

Customers don't know how to use schedule tech.

App is easy to use, very helpful

App is confusing to use, buses disappear

working on outdated fareboxes

Mobile-ticketing in works

Reliable "Buses come on time"

Service Change

Bus operation schedule recently moved to electronic

Main CX Complaints ① Late bus ② Bus did not stop

Buses being on time is a real issue

Taking the bus takes a longer time b/c route changed. Now, must take 2 buses instead of 1.

Route disruption was a problem for those route was i...

BCC discontin... was a huge blow to tran... experience

Pain Points (customer)

I really wanted to see Light Rail happen

I do not use it anymore after service change - BCC

"I did not even notice the service change"

Operators

bus operator attitude is important

Some drivers been there for decades

Prioritizes operators w/ customer skills

GM direc... as b...

Some ppl are so dependent on transit that they know bus operators name

Operator... have d... am... tur...

Customer Complaint Process

Operators being displayed more consistently

Transit police needed

security issues for drivers and customers

Security

GoDurham Won best transit in N.C.

Bright Spots

GoDurham's Core Orthodoxies

An organization's orthodoxies refers to beliefs guiding the organization's business process. After interviewing GoDurham customers and employees, we found that GoDurham has a rich understanding of transit and customer experience. Our interviews also showed there are some gaps between the organization's orthodoxies and the reality experienced by GoDurham customers and employees.

Understanding how these core orthodoxies impact the service provided by GoDurham could mitigate future frustration among customer and employees.

|	
GoDurham has a unique relationship with its stakeholders.	There is a confusing and convoluted hierarchy dividing GoDurham from the city of Durham that could be a potential funding barrier.
GoDurham customers understand transit. They are the "smartest transit riders in the Triangle".	Customers know the area and have been using transit for a long time, but struggle with bus navigation technology.
GoDurham has a close-knit employee community.	Closeness can prevent honest feedback. Some operators were unwilling to discuss GoDurham on record.
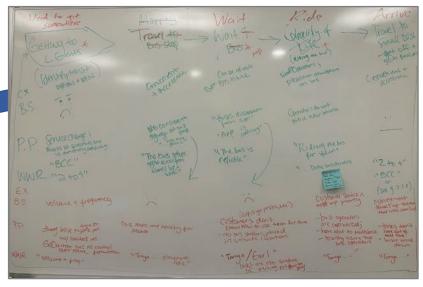
Journey Map Process

Next, we entered the journey map process. Journey maps are a critical tool in the HCD method. They are used to synthesize findings from customer and employee interviews. The process begins by grouping quotes heard from customers and employees into themes i.e. security, technology, etc. Then, this information is funneled into a detailed "map" that highlights the bright spots, pain points, and moments that matter for both customers and employees, especially focusing on the emotions behind the words expressed.
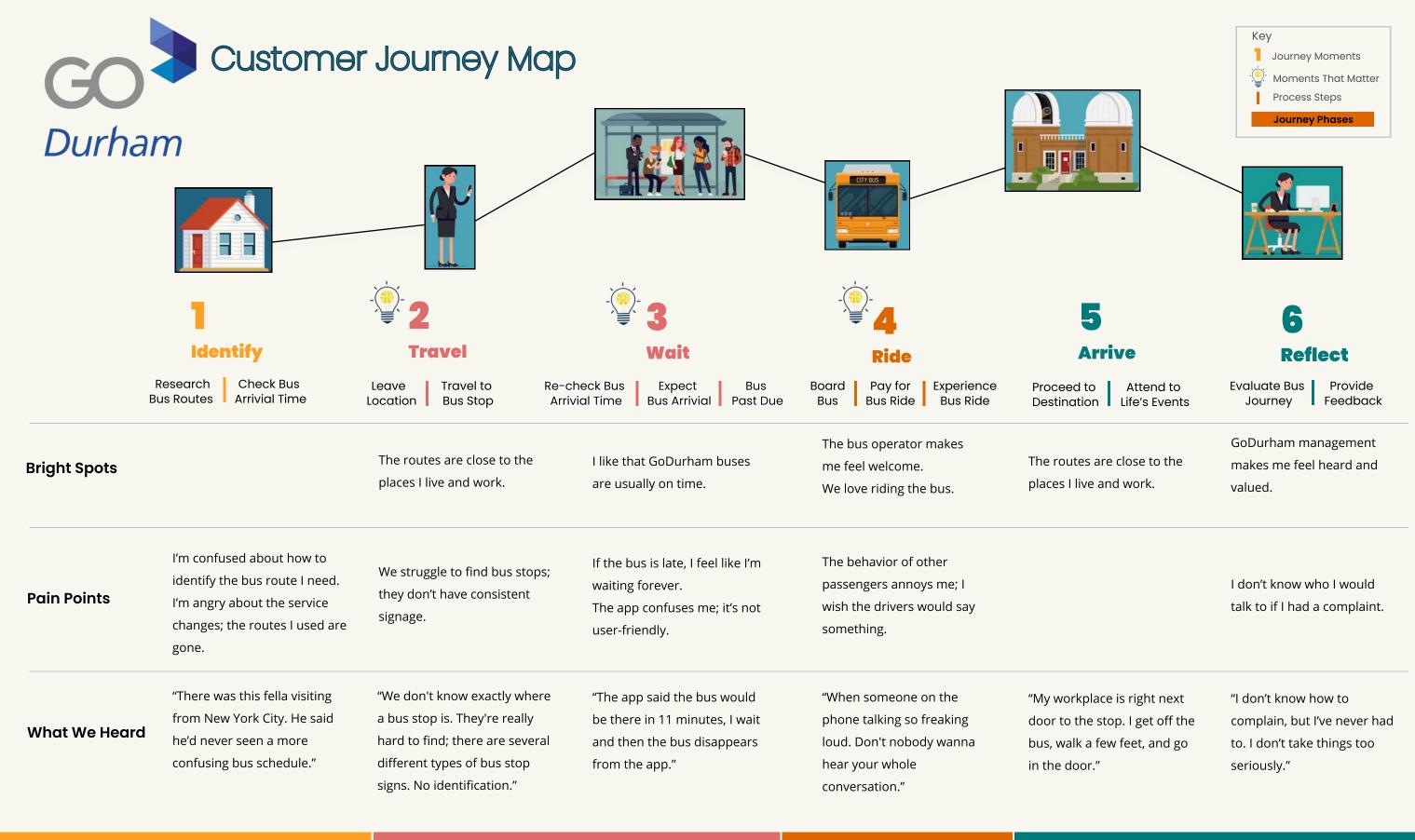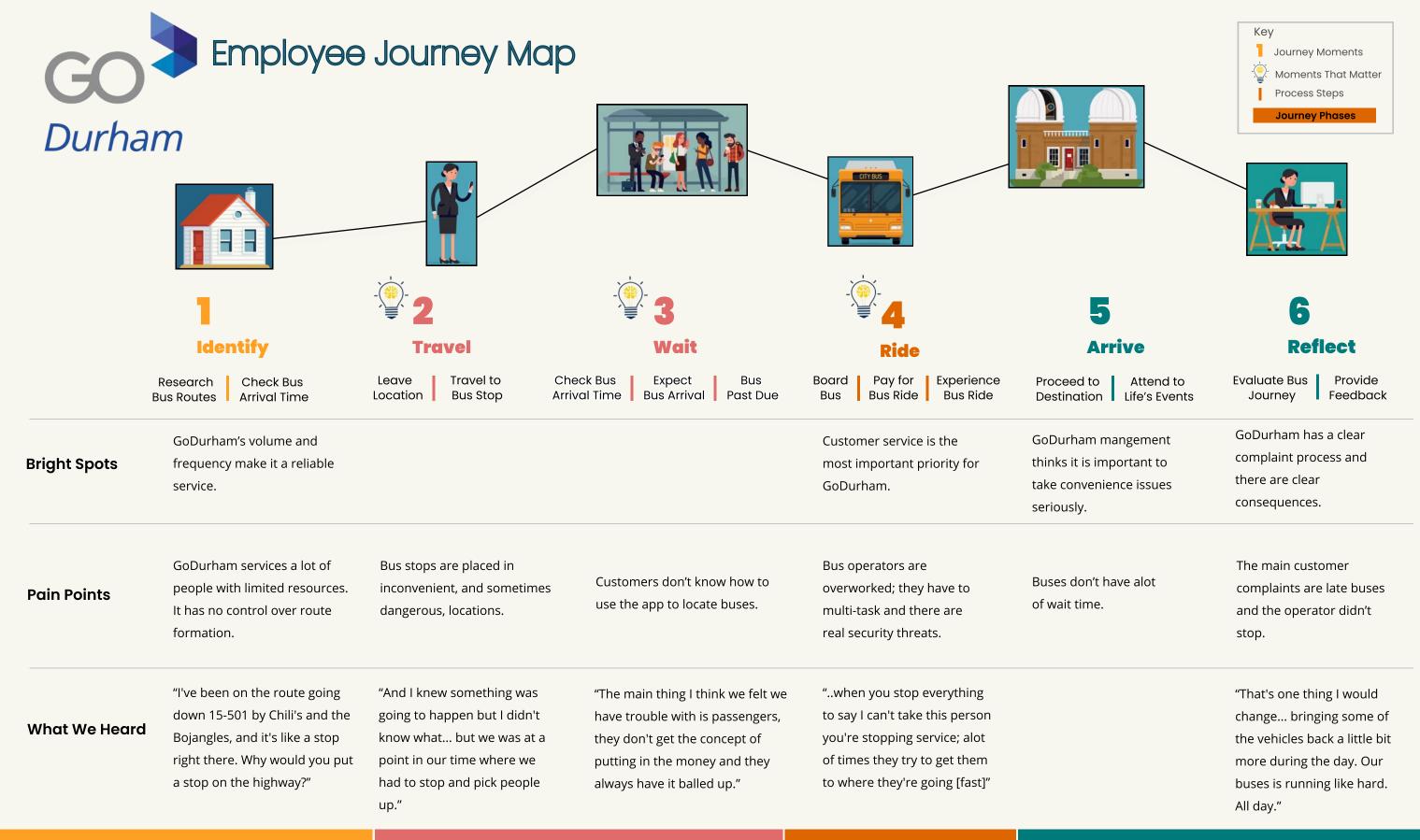
GO Durham — Customer Journey Map

1 Identify
Research Bus Routes | Check Bus Arrival Time

2 Travel
Leave Location | Travel to Bus Stop

3 Wait
Re-check Bus Arrival Time | Expect Bus Arrival | Bus Past Due

4 Ride
Board Bus | Pay for Bus Ride | Experience Bus Ride

5 Arrive
Proceed to Destination | Attend to Life's Events

6 Reflect
Evaluate Bus Journey | Provide Feedback

	1 Identify	2 Travel	3 Wait	4 Ride	5 Arrive	6 Reflect
Bright Spots		The routes are close to the places I live and work.	I like that GoDurham buses are usually on time.	The bus operator makes me feel welcome. We love riding the bus.	The routes are close to the places I live and work.	GoDurham management makes me feel heard and valued.
Pain Points	I'm confused about how to identify the bus route I need. I'm angry about the service changes; the routes I used are gone.	We struggle to find bus stops; they don't have consistent signage.	If the bus is late, I feel like I'm waiting forever. The app confuses me; it's not user-friendly.	The behavior of other passengers annoys me; I wish the drivers would say something.		I don't know who I would talk to if I had a complaint.
What We Heard	"There was this fella visiting from New York City. He said he'd never seen a more confusing bus schedule."	"We don't know exactly where a bus stop is. They're really hard to find; there are several different types of bus stop signs. No identification."	"The app said the bus would be there in 11 minutes, I wait and then the bus disappears from the app."	"When someone on the phone talking so freaking loud. Don't nobody wanna hear your whole conversation."	"My workplace is right next door to the stop. I get off the bus, walk a few feet, and go in the door."	"I don't know how to complain, but I've never had to. I don't take things too seriously."

Chartering Life's Events | **Mapping the Route** | **Seizing Your Moments** | **Ending the Journey**

GO Durham — Employee Journey Map

	1 Identify	**2 Travel**	**3 Wait**	**4 Ride**	**5 Arrive**	**6 Reflect**
Process Steps	Research Bus Routes | Check Bus Arrival Time	Leave Location | Travel to Bus Stop	Check Bus Arrival Time | Expect Bus Arrival | Bus Past Due	Board Bus | Pay for Bus Ride | Experience Bus Ride	Proceed to Destination | Attend to Life's Events	Evaluate Bus Journey | Provide Feedback
Bright Spots	GoDurham's volume and frequency make it a reliable service.			Customer service is the most important priority for GoDurham.	GoDurham mangement thinks it is important to take convenience issues seriously.	GoDurham has a clear complaint process and there are clear consequences.
Pain Points	GoDurham services a lot of people with limited resources. It has no control over route formation.	Bus stops are placed in inconvenient, and sometimes dangerous, locations.	Customers don't know how to use the app to locate buses.	Bus operators are overworked; they have to multi-task and there are real security threats.	Buses don't have alot of wait time.	The main customer complaints are late buses and the operator didn't stop.
What We Heard	"I've been on the route going down 15-501 by Chili's and the Bojangles, and it's like a stop right there. Why would you put a stop on the highway?"	"And I knew something was going to happen but I didn't know what... but we was at a point in our time where we had to stop and pick people up."	"The main thing I think we felt we have trouble with is passengers, they don't get the concept of putting in the money and they always have it balled up."	"..when you stop everything to say I can't take this person you're stopping service; alot of times they try to get them to where they're going [fast]"		"That's one thing I would change... bringing some of the vehicles back a little bit more during the day. Our buses is running like hard. All day."

Chartering Life's Events	**Mapping the Route**	**Seizing Your Moments**	**Ending the Journey**

Wait: The Moment That Mattered

For GoDurham customers, there were three moments that mattered: travel, wait, and ride. Of these three important steps in the transit journey, wait presented the greatest opportunity to impact GoDurham's customer service experience because it had the most salient pain points for customers and employees.

Customers routinely expressed several priorities in improving their waiting experience, but first and foremost, they wanted to know when their bus would arrive. To obtain this information, customers wanted the ability to track the location of their bus and they suggested improvements to the existing technology or an introduction of new technology.

Employees noted that customers didn't know how to use the information services GoDurham provides that would allow them to determine when their bus would arrive. There was a noticeable frustration among employees that past attempts to inform customers of arrival times had not been successful.

Thus, by improving the wait process, GoDurham customers and employees may have a better transit experience overall.

During "Wait"

The moments that matter most for GoDurham customers occur during their wait for the bus. It is in these moments that customers can experience **feelings of frustration and helplessness** that paint the rest of their transit journey in a negative light.

A customer's wait contains three key phases:

(1) Time/App Check: customers will typically evaluate where the bus is by looking at the time or checking the app to see the bus location.

(2) Anticipated Arrival: customers patiently await bus arrival at scheduled time.

(3) Past Due: the bus arrives late and customer experience plummets.

Among these phases, Past Due contains the most salient pain points among customers and employees.

Time/App Check → Anticipated Arrival → Past Due

DESIGN.

The team brainstormed ideas for helping customers during the Past Due phase. Ideas were graphed according to their feasibility and impact.
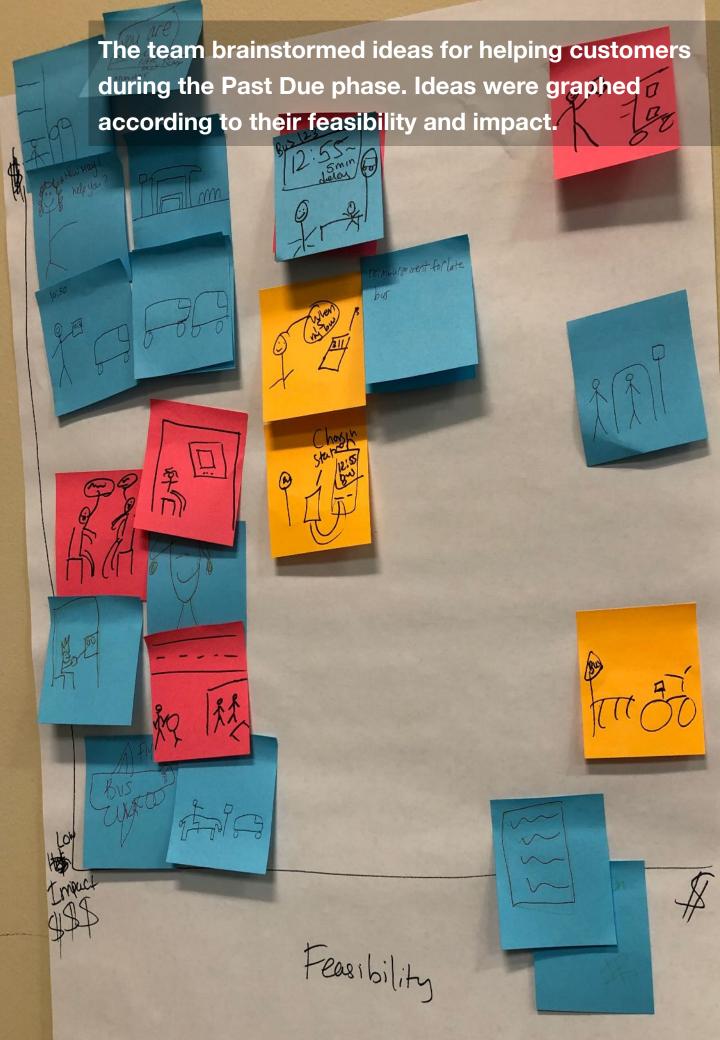
Ideation Process

Taking into consideration insights from the Discover phase, the team brainstormed ideas for mitigating customers' frustration in the Past Due phase of Wait. Each team member reflected on insights from the Deliver phase to produce several ideas and drew rough sketches of the ideas on post-it notes. No idea was too crazy for consideration because everything goes during brainstorming sessions in HCD.

Design ideas were ranked based on impact and measured by the degree that it mitigated customer pain points and was feasibly cost effective. Three ideas scored high for both of those categories.

Idea A: Electronic Sign

The most expensive but effective idea was placing an electronic sign at every bus stop. It would display the real-time information for every route servicing the stops. Customers would be able to view real-time information for upcoming buses and would not have to use their personal devices to check when their bus is coming.

Ideation Process

Idea B: Texting Alert System

The medium-grade solution would rebrand the automated texting alert system. Transit reliant customers could sign up for this service for buses they depend on and receive a text alerting them of schedule disruptions before they arrive at the bus stop.

Idea C: Redesign Existing Bus Stop Signs

Our third and most cost-effective idea proposed redesigning the existing bus stop sign. Modifications included adding:

- QR codes that take riders directly to GoDurham's website to track buses in real-time.

- Physical bus schedules to address equity and access concerns with phone and internet-based bus tracking options.

- Flyers explaining the bus payment process since paying the fare can cause boarding delays and effect bus service times.

Co-Creation at Durham Station

We engaged with **5 customers and 1 operator** at Durham Station to solicit feedback on our three proposed solutions.

Bus stop redesign: Interviewees partook in an interactive card sorting activity. We created post-its for current and new components of the GoDurham bus stop signage. Interviewees placed sign components they deemed helpful and important onto a "bus stop." Additionally, interviewees could write in their own ideas and place it on the bus stop as well.

Automated Alert System and Electronic Sign: The team showed visuals of these ideas and explained their purpose to interviewees. The team then asked questions to gauge whether interviewees perceived the idea as helpful and if customers had suggestions for tweaking it to increase impact.

Customer Ideation Feedback

Despite the COVID-19 crisis that severely limited customer interaction, the CX Team was able to interview multiple people during the ideation process. During co-creation with customers at Durham Station, two main themes arose.

Customers expressed **disinterest in or frustration with** texting services and other technological solutions. Some mentioned that they normally don't use the GoLive phone number or texting feature to track buses in real-time. One customer shared that he didn't have access to a phone to use this service and, because he was transit dependent, he would normally have to sit and wait for the bus to eventually arrive.

Additionally, customers want access to reliable information about when their bus will arrive in a way that is accessible to them at all times.

Employee Ideation Feedback

"QR code that's… a pretty good idea, think people would use it more than text, people wouldn't have to put in information."
– Earl Bumphus, Technical Equipment Manager

Employee feedback reaffirmed that certain segments of the GoDurham customer base may not feel comfortable with using technological platforms to access bus schedules or track buses. According to the operator interviewed at Durham station, older customers will especially struggle with technology dependent solutions. Similarly, Brian Fahey shared an anecdote of a customer without a phone and challenges they faced with accessing scheduling information. On the contrary, Earl Bumphus supported adding new technology, like the QR code, that would eliminate existing friction customers encounter when using tracking services via their phones.

"That's a good point... There can be psychological barriers to using a phone for these services."
– Brian Fahey, Transit Administrator

Refined Recommendation

Based on the feedback from customers and employees, we recommend GoDurham adopt a new approach to conveying schedule information at stops to reach customers whose needs are not addressed by technological solutions.

With our solution, GoDurham bus stops would include:

(1) PHYSICAL BUS SCHEDULES

This is aimed at providing useful information for customers who are unable to access GoDurham's digital services for any reason. High volume time stamps will be enlarged so customers with visual impairments can see them clearly.

(2) QR CODES

Real time information is ultimately more valuable for customers to have and customers who are familiar with technology can still access this by navigating the GoDurham website via the QR Code. This method could be easier for customers to use than the digital services currently provided and, according to customer feedback, it is an under-utilized resource as is.

The Solution Prototype

The Solution

To mitigate the issues around "Wait", GoDurham should implement physical bus schedules with QR codes that will offer bus arrival times in a way that customers may find more accessible.

- With accessible arrival time information, customers will **feel reassured and in control** of knowing when their bus is coming.

- Employees will be relieved of acting as mobile customer information desks and can focus on their primary responsibilities.

- During the pilot phase, the physical bus schedules should be placed at three high-volume stops: Walmart at Greer St, East Greer St at Glenview Station, Horton Rd at Roxboro Rd.

Best Practices

Our solution is informed by our understanding of best practices for public transit agencies. The most important goals we found were:

✓ **Providing safe, reliable, convenient and accessible transportation to customers**

✓ **Fostering a customer-centric organizational culture**

✓ **Leveraging technology to communicate with employees and customers**

GoDurham understands the importance of all of these goals. However, practical limitations sometimes prevent the ideal from becoming reality. Leveraging technology and providing reliable transportation are the main areas where GoDurham could see improvements. Our immediate solution helps address reliability and the end goal we envision would address gaps in technological communication.

A Transformed Experience

In our transformed experience, we want customers to enjoy increased satisfaction with their ride experience and the GoDurham bus system overall. We want employees to experience fewer frustrations with customers' lack of familiarity with existing resources. And we want funders to see improved utilization of cost-intensive resources.

The negative comments we heard—or, as we like to call them, "boos"—centered on the moments when a customer is expecting a bus and that bus does not arrive. We want to turn this "boo" into a "cheer" by empowering customers to access accurate information about when the buses on their preferred routes will arrive.

We believe that removing this information asymmetry for customers will deliver benefits for employees as well. Many bus operators note that they often spend time explaining basic bus information to customers. If customers are better connected to existing resources, operators will not have to repeat themselves so often.

Moreover, GoDurham maintains a number of first-rate resources. Our solution ensures these resources are enjoyed by the broadest audience possible.

Hurdles to Implementation

Limits to bus stop physical infrastructure

The infrastructure at each bus stops varies significantly. Some stops offers benches and weather protection. Others are nothing more than a sign denoting the stop. The available infrastructure will impact how easy it will be to implement our design solution at various stops.

Labor-intensity of changing schedules

Brian Fahey noted that the regular bus schedule changes frequently. The reason the physical schedules were initially removed from the stops was because it is extremely labor-intensive to require GoDurham staff to go around to stops and change the physical schedules.

Acclimating customers to new resources

The single largest hurdle will be introducing customers to the newly available resources. In order to make customers aware of the enhanced bus schedule and QR codes, a culture campaign may be necessary to ensure this behavioral change sticks.

DELIVER + MEASURE.

Deliver + Measure Process

The goal of the implementation process is to test our proposed solution's ability to address customers' and employees' unmet needs during the "wait" stage of a customer's bus journey.

The pilot period will allow GoDurham to start small by placing schedules at three high-volume bus stops. This will require less investment on GoDurham's part while the solution goes through an iterative process to ensure customer satisfaction.

Based on customer and employee feedback, we expect the solution's design to be transformed as needed after the pilot project is completed.

Implementation Plan

To better customers "wait" experience, GoDurham should adopt an iterative solution approach that begins with a "skateboard" and ends with a "car" which means gaining quick wins with customers now, while being forward thinking on how best to serve customers in the future.

For quick wins today, GoDurham should invest in the necessary tools for the "bicycle" solution i.e. clear cases for bus stop signs, QR code generator software, etc. Long-term solutions should focus on building a more extensive bus network infrastructure.

Skateboard to Car Solution Map

Solution Phases

PHASE 1: THE SKATEBOARD

The skateboard is the bus stop information currently conveyed to GoDurham customers. Most bus stop signs include bus route numbers and customer support information, but written bus schedules at the stop is unavailable.

PHASE 2: THE BICYCLE

The bicycle is the low-tech bus stop sign solution that includes bus stop arrival times for peak working hours, Monday - Friday, a QR code that connects customers to real-time bus tracking, and larger font to ensure inclusive usage among GoDurham's customer base. GoDurham should initiate pilot testing in summer 2020 amidst COVID-19 as ridership is still operating at over 70% capacity.

PHASE 3: THE MOTORCYCLE

The motorcycle is GoDurham investing in a new automatic vehicle location (AVL) system that provides more accurate information when determining and transmitting the geographic location of buses across the city. This would allow better real-time bus tracking for GoDurham customers.

PHASE 4: THE CAR

The car is the ultimate, high-tech solution that puts electronic bus stop signs at every bus stop in Durham. Customers have the information they need to map when their buses are coming and employees are not tasked with manually updating bus schedule information at each stop.

Implementing the "Bicycle" Solution

During the pilot phase, the physical bus schedule and QR code for each route should be placed at three high-volume stops: Walmart at Greer St, East Greer St at Glenview Station, Horton Rd at Roxboro Rd.

These specific high-volume stops were chosen because of their high ridership rates and they are representative of the majority of GoDurham customers.

We anticipate the solution will improve the experience of transit dependent and transit flexible riders. With accessible arrival time information, customers will **feel reassured and in control of** knowing when their bus is coming. Employees will moreover be relieved of acting as mobile customer information desks and can focus on their primary responsibilities.

By limiting the pilot to three high-volume stops, GoDurham can efficiently utilize its resources to achieve quick wins and adjust the pilot as needed through the testing period to maximize its impact.

Critical Factors To Consider

The team engaged Audra Foree, Information Services/Customer Experience Supervisor, and Brian Fahey, Transit Administrator, to identify critical factors that might influence the pilot's success.

- **How will the schedules be displayed at bus stops?**

- **How can GoDurham get objective feedback from all of its important constituencies?**

- **How can GoDurham make customers aware of the pilot program?**

- **Who will change the schedules when they become outdated?**

The proposed implementation plan offers strategies for addressing some of these challenges. Furthermore, by leveraging stakeholders championing the "bicycle" solution and lessons learned from previous pilots, GoDurham could mitigate the rest of these uncertainties.

The Tool Box

GoDurham will need QR codes for each bus route that services the three high-volume bus stops chosen, linked to the appropriate page on the GoDurham website that includes route details and real-time bus arrival information. We recommend purchasing the Advanced plan from QR Code Generator which charges $13.65/month for 50 QR codes and unlimited scans.

GoDurham will also need up-to-date, physical bus schedules (with high-volume times enlarged for visually impaired riders) that can be easily posted at the three selected bus stops.

Depending on how the Amenities and Stops team decides to post this information, GoDurham may also need physical display cases where the enhanced schedule and QR code can be posted and protected.

Pilot Timeline

GoDurham's 180-day roadmap highlights the essential next steps for the pilot implementation.

START

01 Week 1-3
GET STAKEHOLDER BUY-IN
Communicate project goals and potential impact to key stakeholders

FUND PILOT PROJECT
Secure funding source for project
02 Week 3-7

03 Week 8-10
CREATE SCHEUDLES + QR CODES
Create bus schedules and QR Codes for three high-volume stops

TRACK QR CODE USAGE
Track impact by QR Code usage and customer/bus operator feedback
04 Week 11

05 Week 12-14
ANALYZE RESULTS
Analyze data and highlight key insights from findings

SHARE ANALYSIS
Report implementation analysis to GoDurham stakeholders
06 Week 15

07 Week 16-21
REASSESS IMPACT
Continue to reassess project through data collection and analysis
EXPAND PILOT

The From-To Expectations

For Customers

Our From-To Expectations capture how we expect our design solution to transform the customer and employee experiences — relieving pain points and creating new bright spots.

FROM	TO
If a bus is late, we have no idea when or if the bus will arrive.	When my bus is late, I can track where it is, and I know when it will arrive.
They don't tell us about disruptions. How are we supposed to know?	I know where to access accurate information about service delays.
All they have for us is the app, and it doesn't have any useful information.	I use schedules and QR codes to learn about my preferred routes.

The New GoDurham CX

THE REALITY

"When the bus is late, you feel like you're waiting forever."

THE IMAGINED FUTURE

"The bus is late but the schedule says the next one comes in 15 minutes."

The From-To Expectations

For Employees

FROM	TO
Multiple people ask me when the bus is coming at the bus station.	I don't have to manage customer confusion about buses.
I get so angry when customers board the bus that I look the other way.	Customers use the bus the way I would use it. They know the drill.
Customers complain that they don't have the information they need.	Customers know about and use all GoDurham's resources.
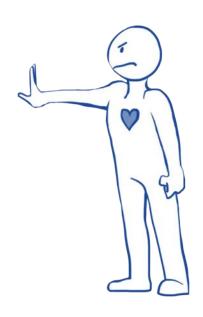
The New GoDurham EX

THE REALITY

"You know you put your time and effort in teaching them [customers]"

THE IMAGINED FUTURE

"My job is easier now because customers understand the system and I don't have to explain it to them."

Stakeholder Analysis

CHAMPIONS

The key stakeholders that need to be on board to ensure the success of our design solution include an internal GoDurham team as well as individual GoDurham employees.

The Amenities and Stops team, which is responsible for the physical infrastructure present at bus stops, will be critical for success. Our solution falls under their jurisdiction and cannot occur without them.

The individual employees who will need to be on board include Audra Foree, GoTriangle Information Services and Customer Experience Manager; Eric Bergstraesser, GoTriangle Chief Operating Officer; Pierre Osei-Owusu, City of Durham Transit Administrator; and Brian Fahey, GoTriangle.

Stakeholder Analysis
POTENTIAL BLOCKERS

The Amenities and Stops team may oppose our recommendation if they find it requires cost prohibitive infrastructure changes at GoDurham's bus stops.

Additionally, bus operators may present another roadblock. They could view the QR code as yet another resource they have to explain to customers and express their opposition to their supervisors.

Finally, customers may block our solution's success if they express dissatisfaction with the change or argue that other aspects of the bus service should be prioritized first.

Measuring Impact

It is important that there is evidence to support the proposed solution is effective in addressing customer needs. GoDurham should solicit feedback from customers and bus operators servicing high-volume stops throughout the pilot process and beyond. Feedback should be aimed at collecting data on the ease, emotion, and effectiveness of the customer experience.

EASE
Customers can easily access bus schedule information.

EMOTION
Customers feel in control of their entire bus journey.

EFFECTIVENESS
Customers can complete life events on-time.

The proposed measurement system in the pages to follow will measure whether customers at high-volume stops are aware of and can access bus schedule information. It will also measure whether employees are spending less time managing customer misunderstandings about bus schedules and service delays.
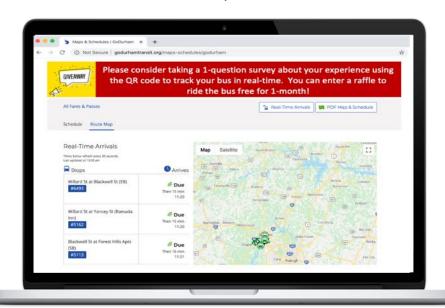
Customer Feedback

01 An objective indicator for tracking bus schedule utilization is the number of unique QR code scans. GoDurham can track and analyze the number of hits in real-time on the QR code generator company's website.

02 Customers scanning the QR code are directed to the real-time tracking website page for their bus route. GoDurham will place an alert on the page asking customers to take a 1-question survey and enter into a raffle to win a 1-month bus pass.
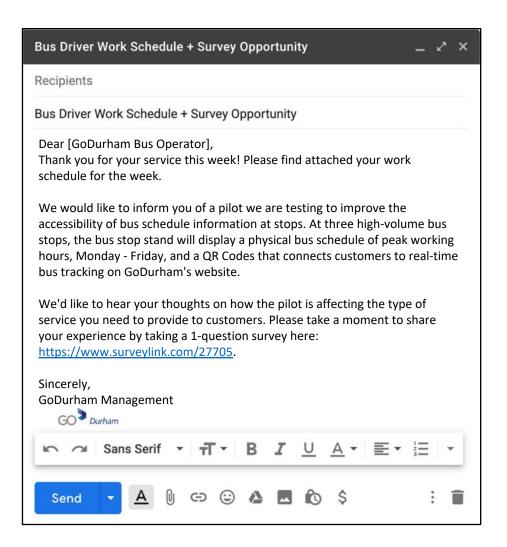
Bus Operator Feedback

Management staff should request operator feedback to measure the pilot's impact because operators are constantly communicating with GoDurham customers. During the Discover phase, we learned operators often spend team assisting customers with understanding the bus schedule.

Surveying operators during communication about their schedule or during team meetings could lead to a higher response rate without placing additional burden on their time. A sample email can be found below.
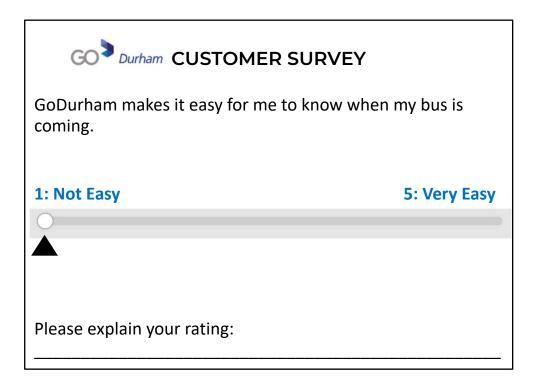
Bus Driver Work Schedule + Survey Opportunity   — ⤢ ✕

Recipients

Bus Driver Work Schedule + Survey Opportunity

Dear [GoDurham Bus Operator],
Thank you for your service this week! Please find attached your work schedule for the week.

We would like to inform you of a pilot we are testing to improve the accessibility of bus schedule information at stops. At three high-volume bus stops, the bus stop stand will display a physical bus schedule of peak working hours, Monday - Friday, and a QR Codes that connects customers to real-time bus tracking on GoDurham's website.

We'd like to hear your thoughts on how the pilot is affecting the type of service you need to provide to customers. Please take a moment to share your experience by taking a 1-question survey here: https://www.surveylink.com/27705.

Sincerely,
GoDurham Management

GO Durham

Example Surveys

GO Durham CUSTOMER SURVEY

GoDurham makes it easy for me to know when my bus is coming.

1: Not Easy   **5: Very Easy**

Please explain your rating:

_____

GO Durham BUS OPERATOR SURVEY

I never get questions from my passengers about helping them understand the bus schedule.

❏ Strongly disagree
❏ Disagree
❏ Neutral
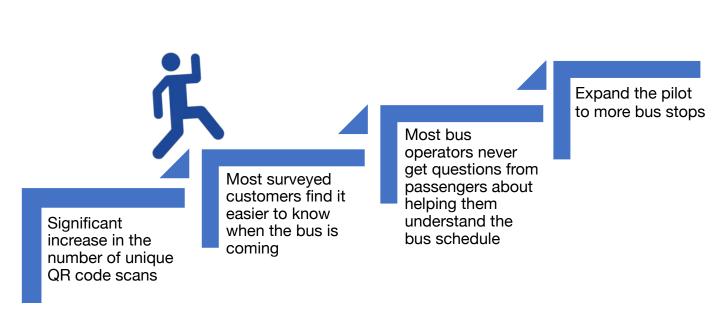❏ Agree
❏ Strongly agree

Please explain your rating:

_____

Pilot Milestones

GoDurham should continuously monitor if the pilot reduces customer frustration related to bus arrival times at the three high-volume stops. The implementation team should schedule monthly team check-ins devoted to analyzing the volume of unique QR scans, and survey feedback from customers and operators.

These meetings create a space in which the team could brainstorm refinements to improve the pilot's delivery. Ultimately, by the end of the pilot, the team should decide whether expanding the pilot helps GoDurham fulfill its mission and vision of providing safe, reliable, convenient and accessible transportation for the citizens and visitors of Durham.

Significant increase in the number of unique QR code scans

Most surveyed customers find it easier to know when the bus is coming

Most bus operators never get questions from passengers about helping them understand the bus schedule

Expand the pilot to more bus stops

The Iterative Process

It is important in any human-centered design process that solutions be reworked and redeveloped at any time in response to new feedback or new discoveries.

Our prototype solution should therefore be treated as the beginning of a process, not the end of one. It is a solution we think is **desirable, viable** and **feasible** for the immediate future, but it is not yet the ideal.

As discussed before, our proposed prototype is a "bicycle" solution but the most ideal is the "car". However, implementing the "bicycle" solution in the present will move GoDurham in the right direction.

Every step GoDurham takes to implement the proposed solution should be taken with a long-term vision in mind. Our immediate solution is most valuable as a first step towards the ideal solution. We now turn the reins over to GoDurham to continue the HCD process.

Team member Afsana texts GoLive for the bus time while waiting for the bus to Durham Station to conduct interviews.

APPENDIX.

Redesign GoLive Text Message

Customers mentioned not using the GoLive text message feature to track their buses in real-time. The current design of the text message response from GoLive has dissuaded customers from relying on this service. When GoDurham invests in the new AVL system and increases accuracy in real-time tracking, the GoLive text service could become an even more valuable resource for customers during the wait phase.

GOLIVE 5145

Erwn Rd at Mrrne Rd
Stp Cde: 5145
Upcoming arrvls
Rt: 11B (GoDurham)
* 6:01 PM
Rt: 400 (GoTriangle)
* 5:32 PM
* 5:59 PM
f)avorite b)ack

Text Message

Redesigned GoLive Text Message

GOLIVE 5145

Thank you for choosing GoDurham! Your next bus will arrive at Erwin Rd and Morreene Rd during the following times within the next hour:

• GoDurham Rt 11B: 6:01 PM
• GoTriangle Rt 400: 5:32 PM, 5:59 PM

Text GOLIVE 5145 to receive another real-time update on your bus arrival time. We wish you a pleasant journey!

Text Message

Bus Fare and TransLoc App

During our interviews we found that many people had issues with the bus payment system and the bus tracking app. We did not pursue these issues further because GoDurham is already working on addressing them. However, we encourage GoDurham and its partners to use the principles of human-centered design by taking the end user into acount when making design decisions.

Questions to consider:

•   What about the app do customers find confusing? How can GoDurham make the information easier to understand?

•   Customers identified Uber and Lyft apps as easy to use, what about these apps do they like and can Transloc replicate those aspects?

•   Would operators prefer not having fares at all? How many customers would continue using cash out of habit?

•   If fares are kept, what payment method do customers feel most comfortable with? Would they prefer having a card they could swipe/insert or do they feel comfortable tapping their phones to pay?

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