

Transportation Sustainability Research Center (TSRC), UC Berkeley
October 2016



Contents

•	Acknowledgments	3
•	Study Overview	4
•	Methodology Overview: Surveys	5
•	Rider Survey (N=18)	
	– Results	7
	Key Takeaways	22
•	Signed-Up Survey (N=119)	
	– Results	25
	Key Takeaways	38
•	Community Survey (N=78)	
	– Results	41
	Key Takeaways	52
•	Activity Data Analysis	
•	Expert Interviews	
•	Appendix	66



Acknowledgements

The authors would like to thank the RideKC: Bridj users, signed-up members, and community members of Kansas City that responded to the three study surveys. We would also like to thank the Kansas City Area Transportation Authority (KCATA), notably Jameson Auten, for coordinating with TSRC researchers during all levels of the study implementation. Thanks also go to Bridj, who were gracious to provide activity data that allowed for a deeper analysis of the RideKC: Bridj service. Thanks especially to Mary Rose Fissinger and Jon McBride of Bridj for helping complete various data requests and assisting with survey deployment. Drs. Susan Shaheen and Elliot Martin, along with Rachel Finson of the Transportation Sustainability Research Center (TSRC) at UC Berkeley also provided invaluable support throughout the study.



Study Overview

Researchers at the Transportation Sustainability Research Center (TSRC) at UC Berkeley conducted an evaluation of the RideKC: Bridj pilot program operating in Kansas City, MO. RideKC: Bridj is a public-private partnership with the goal to enhance existing public transit options in Kansas City through a flexible microtransit service offered by Bridj. TSRC UC Berkeley's goal in this evaluation is to assess the travel behavior impacts of the service, as well as to provide operational and institutional analysis.

The evaluation consists of multiple pieces of analysis. The following slides outline findings from two online surveys, a community survey, activity data analysis, and expert interviews. Survey deployment and expert interviews took place between July and September 2016, and activity data analyses took into consideration all user and vehicle activity during the six-month period of 3/7/16 to 9/6/16. Please reference the study's corresponding appendix document for deeper description of expert interview findings outlined in this slide deck.



Methodology Overview: Surveys

TSRC designed two online survey instruments and one community intercept survey. Of the online surveys, one was distributed to riders, and one was distributed to people who have downloaded the RideKC: Bridj smartphone app but have never taken a RideKC: Bridj ride (we refer to these respondents as the "signed-up" population). Bridj sent the survey invitations to approximately 70 riders and 1,100 "signed-up" members. The surveys were accessed via an online survey platform and are confidential. KCATA employees surveyed members of the community at a number of locations in neighborhoods served by RideKC: Bridj.

The surveys asked questions about usage and opinions of the RideKC: Bridj service, travel behavior, and respondent demographics. Eighteen rider surveys and 119 signed-up surveys were completed, yielding a response rate of 26% and 11%, respectively. Seventy-eight community survey responses were completed, and the response rate was not recorded.



RIDER SURVEY

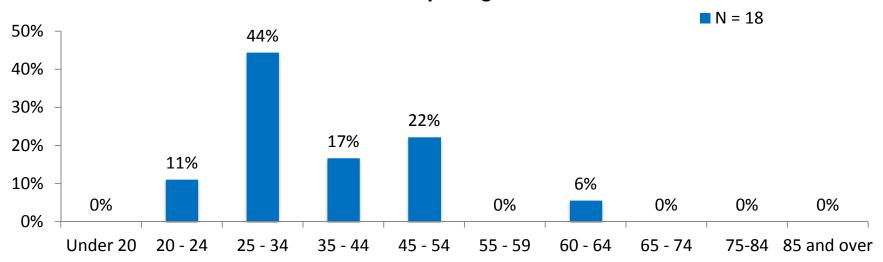


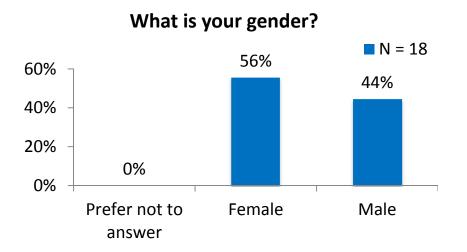
RIDER SURVEY RESULTS: DEMOGRAPHICS



Demographics – Age and Gender

What is your age?



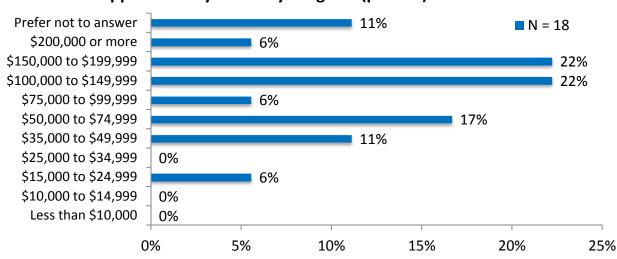


- 55% of respondents are between the ages of 19 and 35
- 56% of respondents are female, and
 44% are male



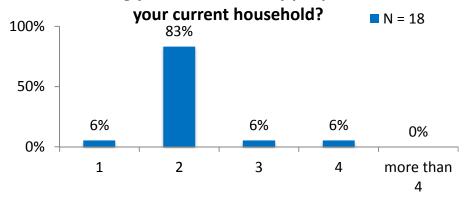
Demographics – Household Size, Income, and Vehicle Ownership

Approximately what is your gross (pre-tax) household income?

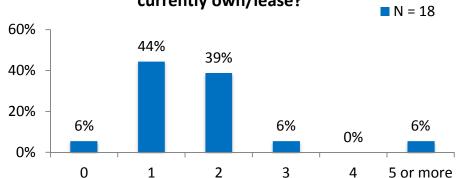


- Most respondents live in two-person households
- 44% of respondents have
 1 household vehicle; 39%
 have 2 household vehicles
- Half of the respondents have a gross household income of \$100,000 or more

Including yourself, how many people live in



How many vehicles does your household currently own/lease?

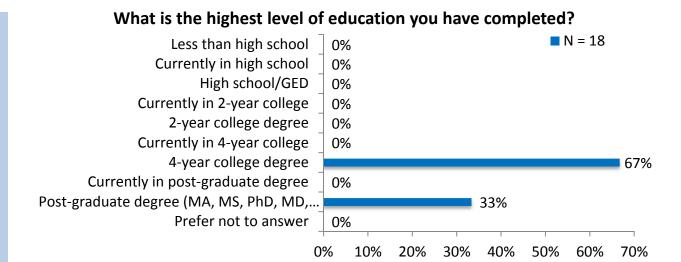




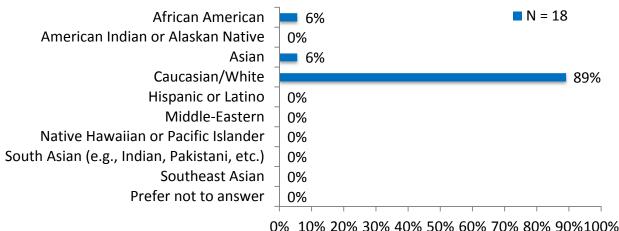
Demographics – Education and Race/Ethnicity

 All respondents have a 4-year college degree or higher

Most respondents identify as Caucasian/White



What is your race or ethnicity? (please check all that apply)



o Sin

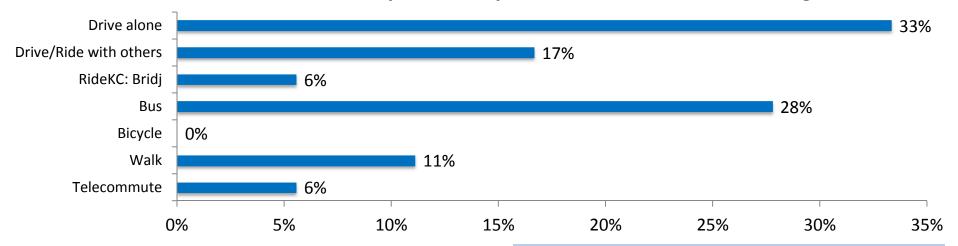
RIDER SURVEY RESULTS: TRAVEL BEHAVIOR / MODE SPLIT



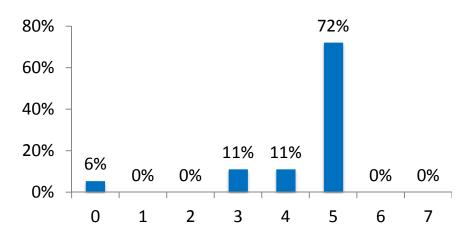
How do RideKC: Bridj Riders Commute?

What is the main mode you typically use to commute to and from work or school? Please select the mode that you currently use the most often for commuting.

■ N = 18



How many days a week do you typically commute to work or school?



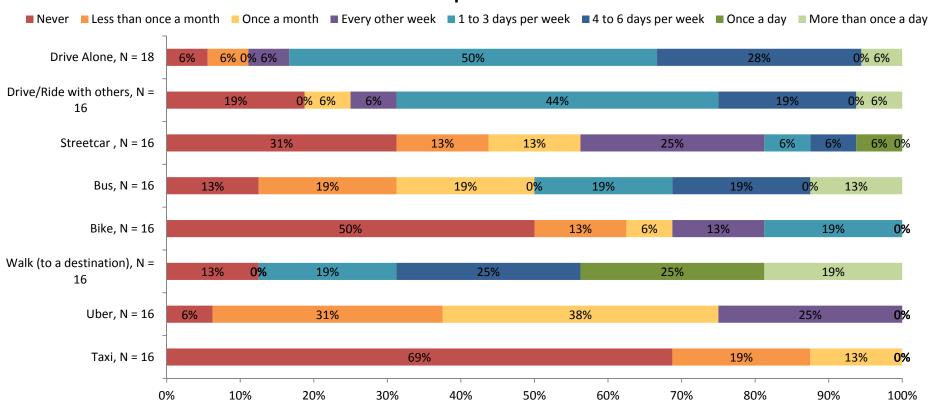
- 6% of respondents are using RideKC:
 Bridj as their main mode of
 commuting
- 50% of respondents commute in a car (either drive alone or drive/ride with others)
- 72% of respondents commute every weekday



RideKC: Bridj Riders' Use of Other Modes of Transportation

- Most respondents drive (alone or with others) and/or walk at least once a week
- About half of the respondents use the bus and/or streetcar more than once a month

Please indicate how frequently you CURRENTLY use the following modes of transportation:



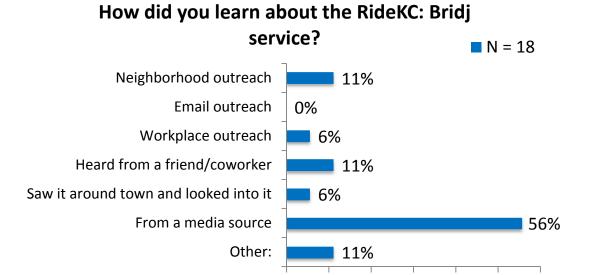


RIDER SURVEY RESULTS: USE OF RIDEKC: BRIDJ

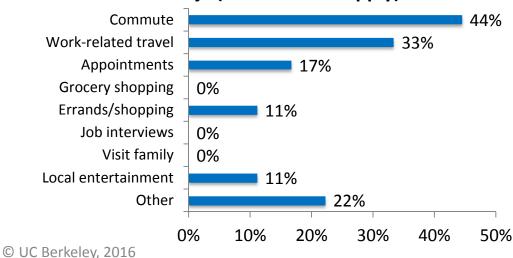


Use of RideKC: Bridj - Outreach and Trip Purpose

10% 20% 30% 40% 50% 60%



For what trip purposes do you use RideKC: Bridj? (check all that apply) ■ N = 18

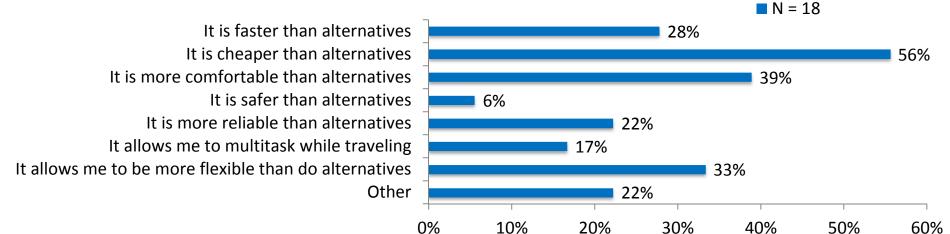


- 56% of respondents learned about RideKC: Bridj from a media source
- 17% of respondents learned about RideKC: Bridj from some form of outreach

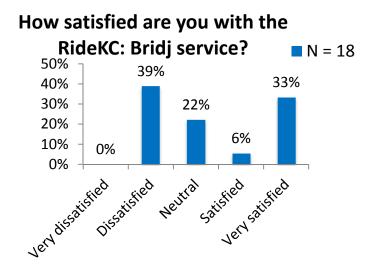
- 44% of respondents use
 RideKC: Bridj to commute
- One third of respondents use RideKC: Bridj for workrelated travel

Use of RideKC: Bridj - Motivations and Level of Satisfaction

What are your motivations for using RideKC: Bridj? (choose all that apply)

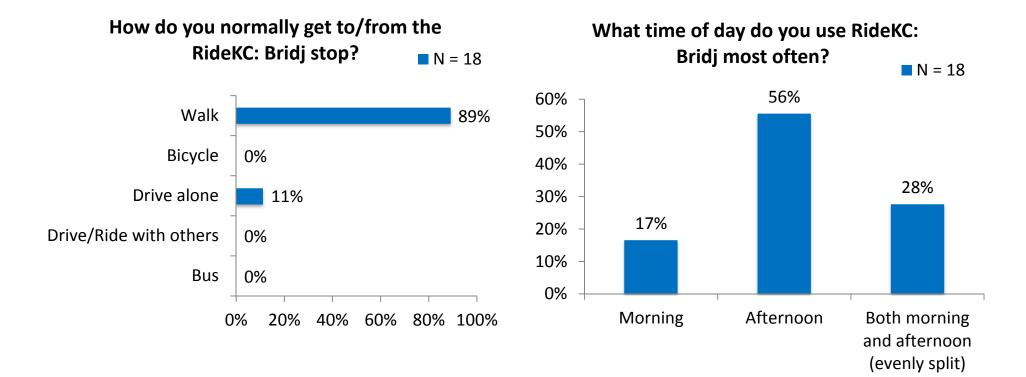


- More than half of respondents use RideKC:
 Bridj because it is cheaper than alternatives
- About a third of respondents use RideKC: Bridj because it is more comfortable or because it allows greater flexibility than alternatives
- 39% of respondents say they are either satisfied or very satisfied with RideKC: Bridj, and 39% say they are dissatisfied with RideKC: Bridj





Use of RideKC: Bridj – Access Mode and Time of Day

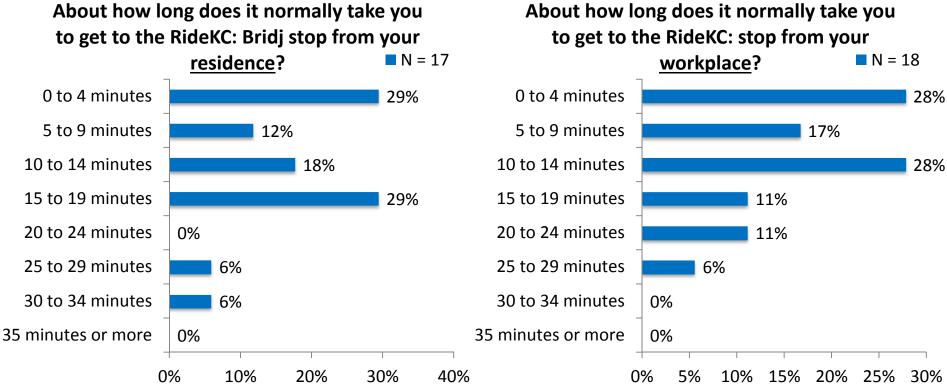


- 89% of respondents walk to/from the RideKC: Bridj stop
- More than half of respondents use RideKC: Bridj in the afternoon only
- 28% of respondents use RideKC: Bridj in both the morning and the afternoon, evenly

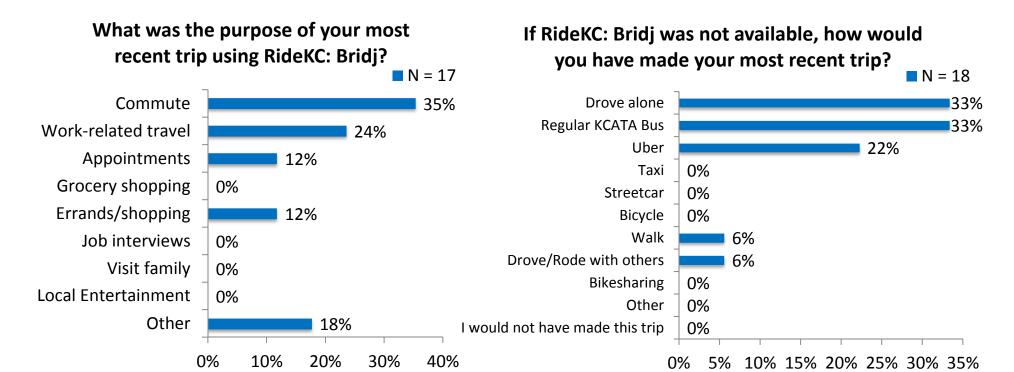


Use of RideKC: Bridj – Access Time

- **About one third of respondents take** *less than five minutes* to get to the RideKC: Bridj stop from either their workplace or their residence
- It takes respondents longer, on average, to get to the RideKC: Bridj stop from their residence than from their workplace



Use of RideKC: Bridj - Most Recent Trip



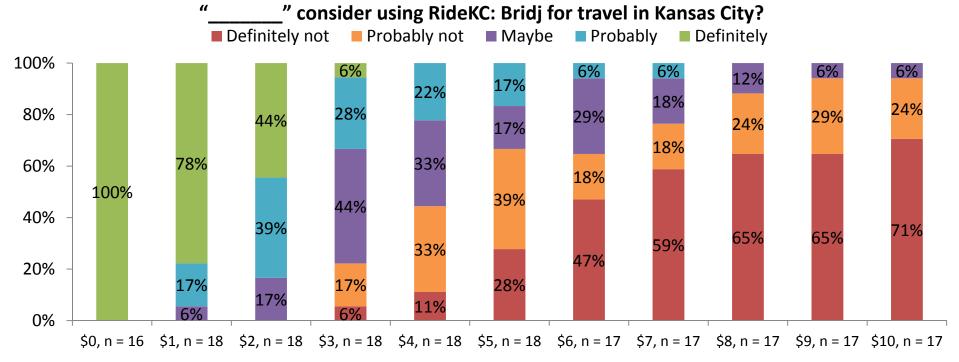
- The distribution of respondents' most recent trip purposes is very similar to the distribution of respondents' stated trip purposes (see slide 8)
- One third of respondents would have driven alone for their most recent trip, if RideKC:

 Bridj were not available and one third would have taken a regular KCATA bus
- Uber is the next most popular alternate mode to RideKC: Bridj after driving and bus

eg Sin

Use of RideKC: Bridj – Price Tolerance

Given the prices below (for a one-way trip) at what prices do you think you would



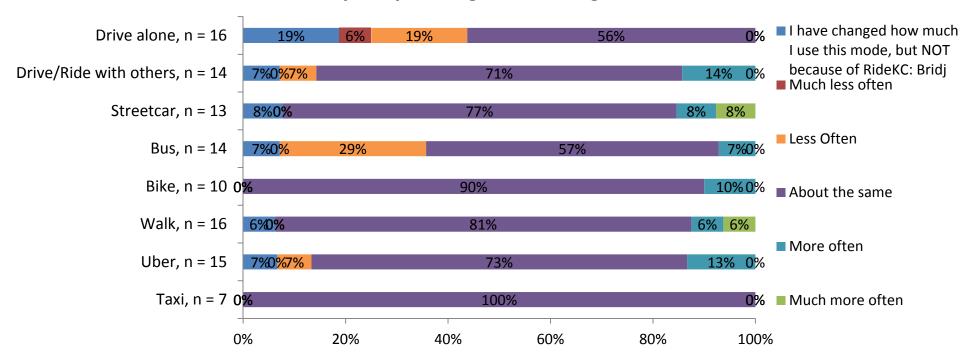
- 100% of respondents said they would definitely use RideKC: Bridj, if it were free
- While all respondents would maybe, probably, or definitely use RideKC: Bridj for a \$2 fare, 6% would definitely not and 17% would probably not use it for a \$3 fare
- No respondents would definitely use RideKC: Bridj for a fare higher than \$3

20 Sin

Use of RideKC: Bridj - Mode Shift Due to RideKC: Bridj

- 25% of respondents who drive alone do so less often because of RideKC: Bridj
- 16% of respondents who use the **streetcar** do so **more often** because of RideKC: Bridj
- 29% of respondents who use the **bus** do so *less often*, and 7% do so *more often* due to their use of RideKC: Bridj

Because of RideKC: Bridj, are you using the following modes more or less often?*



^{*} The above graph does not include respondents who reported that they "did not use [these] modes before, and [don't] use [them] now"

21 Since

RIDER SURVEY: KEY TAKEAWAYS



Key Takeaways – Rider Survey

- Six percent of respondents are using RideKC: Bridj as their main mode of commuting. Fifty percent of respondents commute to work in a car, and 28% use a regular KCATA bus.
- About half of the respondents use the bus and/or streetcar more than once a month. Most respondents drive at least once a week.
- Almost half of all RideKC:Bridj users have made only one trip, and 9% of users have taken more than 10 trips.
- More than half of the respondents use RideKC: Bridj because it is cheaper than alternatives.
- Most respondents walk to get to and from the RideKC: Bridj stop, and about one third of
 respondents can access the RideKC: Bridj stop in less than five minutes from either their
 workplace or residence.
- One third of respondents would have driven alone for their most recent trip, if RideKC: Bridj were not available. Another third would have taken a regular KCATA bus, and 22% would have used Uber.
- While all respondents would maybe, probably, or definitely use RideKC: Bridj for a \$2 fare,
 23% would not use it, if the fare were \$3.
- Twenty-five percent of respondents who drive alone do so less often because of RideKC:
 Bridj, and 29% who use the bus do so less often due to RideKC: Bridj.

23 tsrc

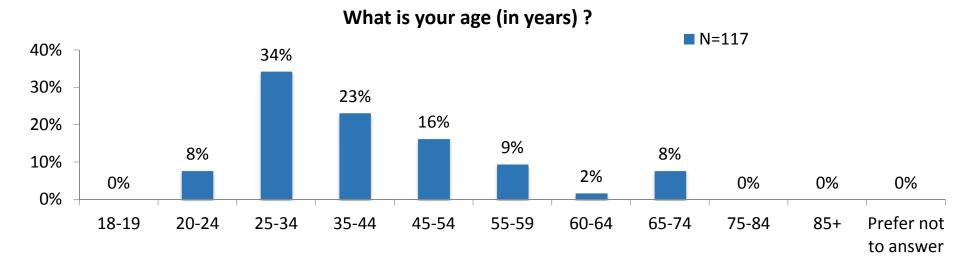
SIGNED-UP SURVEY

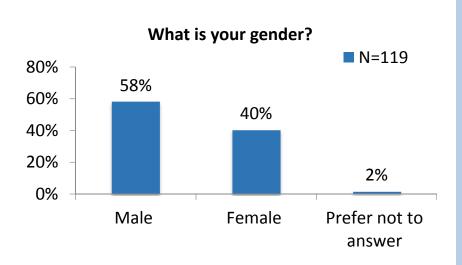


SIGNED-UP SURVEY RESULTS: DEMOGRAPHICS



Demographics – Age and Gender



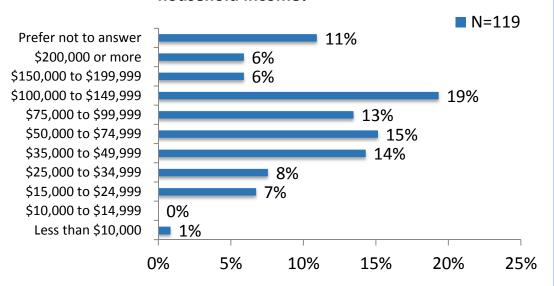


- One third of respondents are between the ages of 24 and 35
- One fourth of respondents are between the ages of 34 and 45
- One fourth of respondents are between the ages of 44 and 60
- 40% of respondents are female, and 58% are male

tsrc

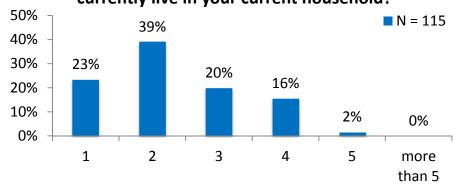
Demographics – Household Size, Income, and Vehicle Ownership

Approximately what was your gross (pre-tax) household income?

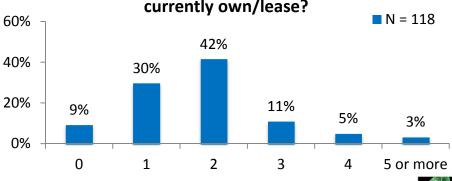


- 23% of respondents live alone;
 39% of respondents live in twoperson households
- 42% of respondents have two household vehicles; 30% have one household vehicle
- 30% of respondents have a gross household income of less than \$50,000; 31% have \$100,000 or more

Including yourself, how many people currently live in your current household?



How many vehicles does your household currently own/lease?

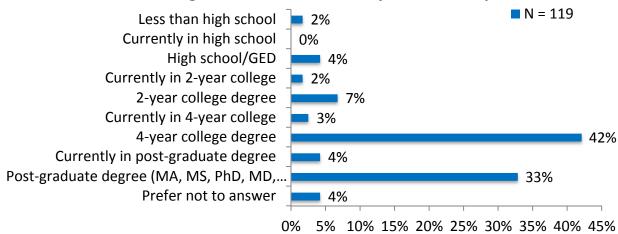




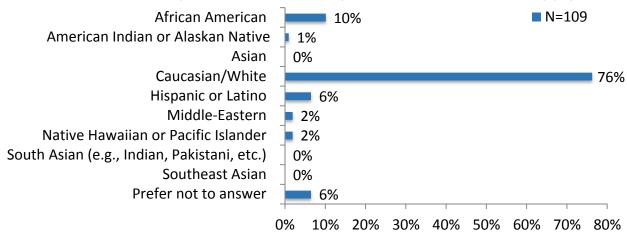
Demographics – Education and Race/Ethnicity

- 18% of respondents do not have a 4-year college degree
- 46% of respondents have a 4-year college degree
- 33% of respondents have a post-graduate degree
- Most respondents identify as Caucasian/White

What is the highest level of education you have completed?



What is your race or ethnicity? (Please check all that apply.)





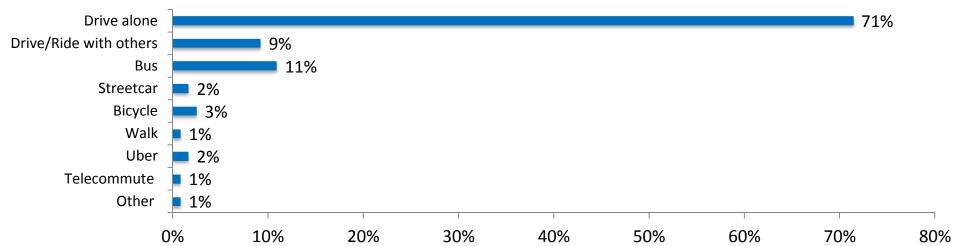
SIGNED-UP SURVEY RESULTS: TRAVEL BEHAVIOR / MODAL SPLIT



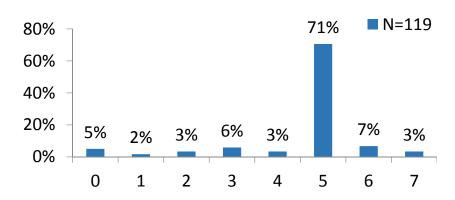
How Do Signed-Up Respondents Commute?

What is the main mode you typically use to commute to and from work or school? Please select the mode that you currently use the most often for commuting.





How many days a week do you typically commute to work or school?



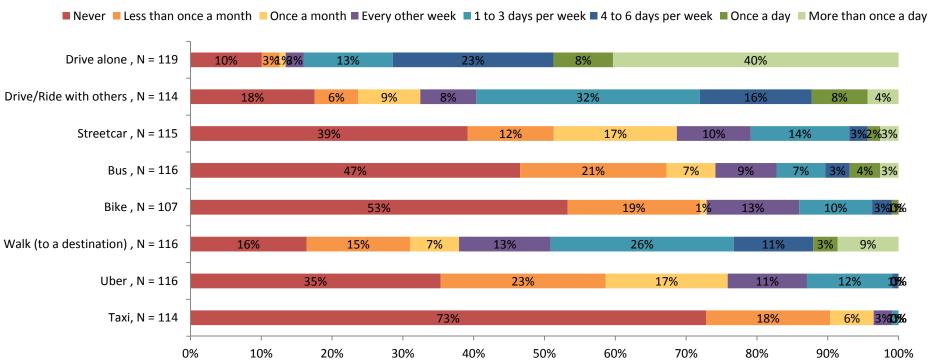
- 71% of respondents commute alone in a car
- 13% of respondents use the bus or streetcar to commute
- 71% of respondents commute every weekday



How Often Do Signed-Up Respondents Use Other Modes?

- Most respondents drive alone multiple days a week; almost half drive alone daily
- About half of the respondents walk at least once a week; 12% walk (to a destination)
 daily
- About a third of the respondents use the bus and/or streetcar more than once a month

Please indicate how frequently you CURRENLTY use the following modes of transportation:



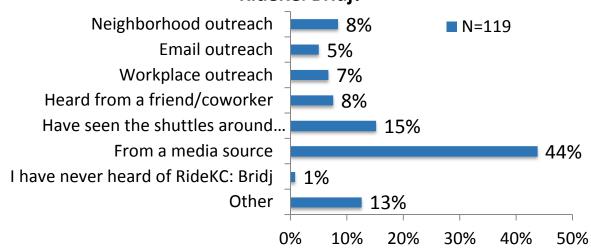
tsrc

SIGNED-UP SURVEY RESULTS: PERCEPTION OF RIDEKC: BRIDJ

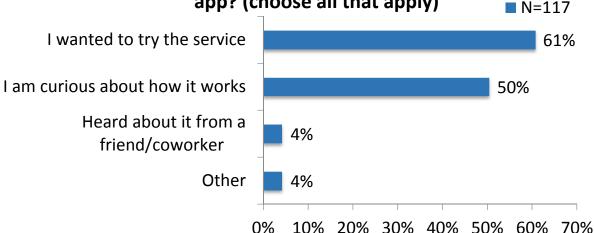


Perception of RideKC: Bridj - Outreach

How did you hear about the transportation service RideKC: Bridj?



For what reasons did you download the RideKC: Bridj app? (choose all that apply)



- 44% of respondents learned about RideKC: Bridj from a media source
- 20% of respondents learned about RideKC: Bridj from some form of outreach

- 60% of respondents
 downloaded the RideKC:
 Bridj app to try the service
- Half of respondents downloaded the RideKC: Bridj app out of curiosity



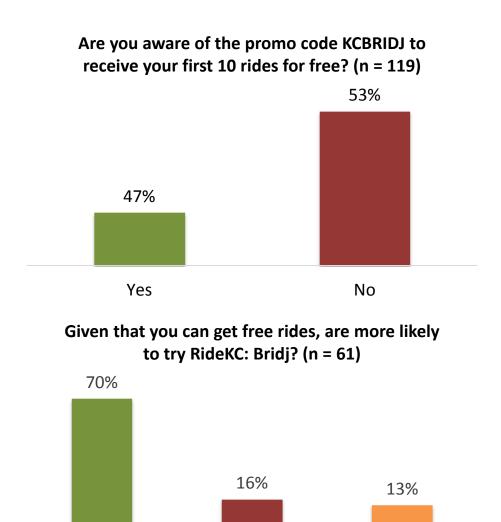
© UC Berkeley, 2016

Perception of RideKC: Bridj - Promotion

Yes

 More than half of the respondents were not aware of the 10 free ride promotion

 Of the respondents that did not know about the promotion, 70% said they were more likely to try RideKC: Bridj after learning about the opportunity to receive 10 free rides



No

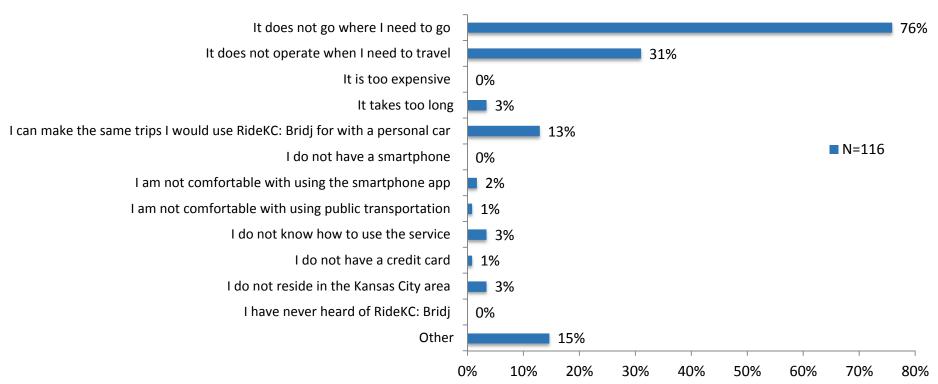


Not sure

Perception of RideKC: Bridj – Barriers to Use

- 76% of respondents do not use RideKC: Bridj because of *geographical coverage limitations;* 31% do not use the service because of *temporal coverage limitations*
- 13% of respondents do not use RideKC: Bridj because they can make the same trips using a personal car

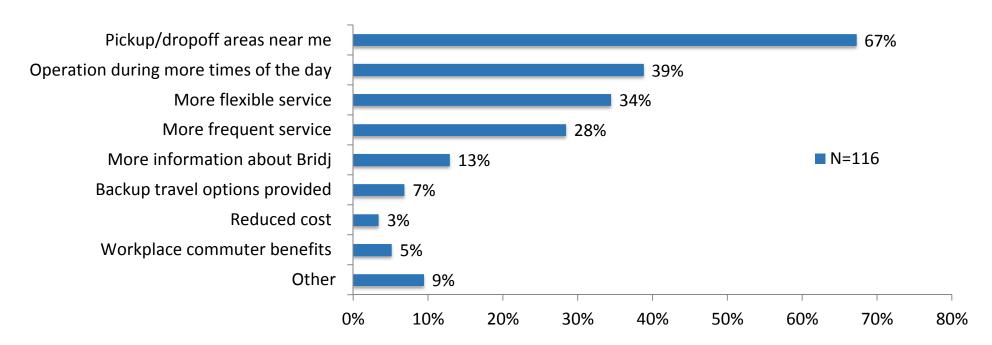
For what reasons have you not used RideKC: Bridj? (choose all that apply)



tsrc

Perception of RideKC: Bridj – Desired Changes

What changes to RideKC: Bridj would encourage your use of the service? (choose all that apply)

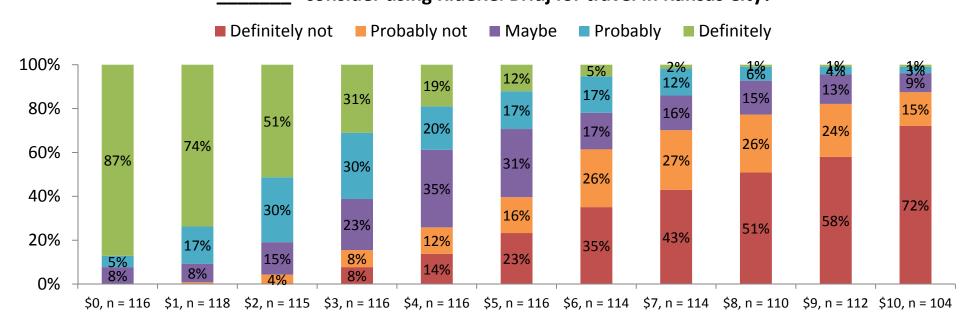


- 67% of respondents said they would be encouraged to use RideKC: Bridj, if the service area were expanded; 39% said they would use it, if the service times were expanded
- 34% of respondents said they would be encouraged to use RideKC: Bridj, if the service were more flexible; 28% said they would, if the service were more frequent

36 Since

Perception of RideKC: Bridj – Price Tolerance

Given the prices below (for a one-way trip) at what prices do you think you would " consider using RideKC: Bridj for travel in Kansas City?



- 87% of respondents said they would definitely use RideKC: Bridj, if it were free; 74% said they would definitely use RideKC:Bridj, if it cost \$1
- While 84% of respondents would maybe, probably, or definitely use RideKC: Bridj for a \$3 fare, 14% would definitely not and 12% would probably not use it for a \$4 fare
- Signed-up respondents appear to have a higher price tolerance than rider respondents

7 Sh tsrc

SIGNED-UP SURVEY: KEY TAKEAWAYS



Key Takeaways – Signed-Up Survey

- The **highest proportion** of respondents **heard about Bridj from a media source** (44%).
- Most of the signed-up respondents say RideKC: Bridj does not go
 where they need to go (76%), and 31% said it does not operate when
 they need to travel.
- More than half (53%) of the respondents were not aware of the 10 free rides promo code, and 70% of the unaware respondents said they are more likely to try RideKC: Bridj now that they are aware of the promotion.
- The majority of respondents (81%) drive alone or with others as their main commute mode to work. Twelve percent use public transportation to commute.
- Fifty-eight percent of respondents are male, 76% identify as
 Caucasian/white, and there is a wide distribution of incomes, among
 the signed-up respondents.

© UC Berkeley, 2016

COMMUNITY SURVEY

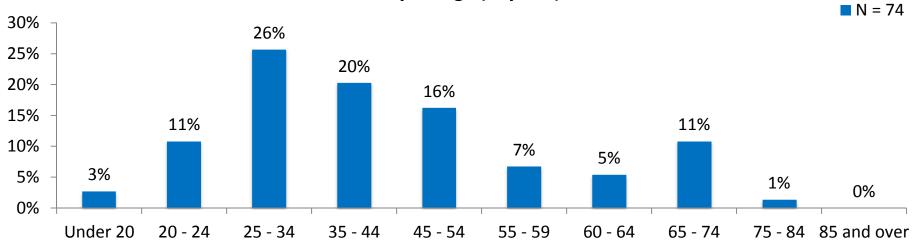


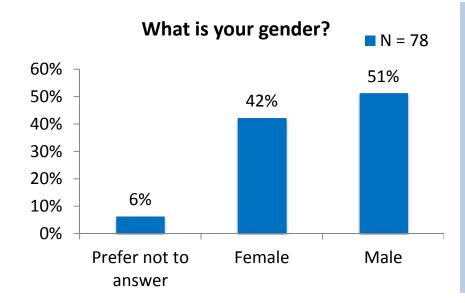
COMMUNITY SURVEY RESULTS: DEMOGRAPHICS



Demographics – Age and Gender



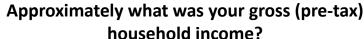




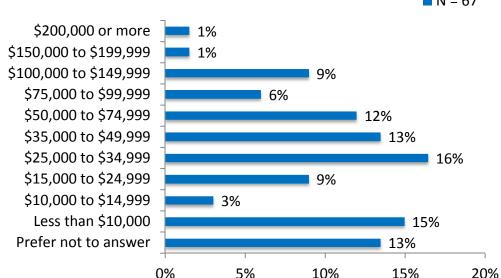
- One fourth of respondents are between the ages of 24 and 35
- 20% of respondents are between the ages of 34 and 45
- 23% of respondents are between the ages of 44 and 60
- 42% of respondents are female, and 51% are male



Demographics – Household Size, Income, and Vehicle Ownership



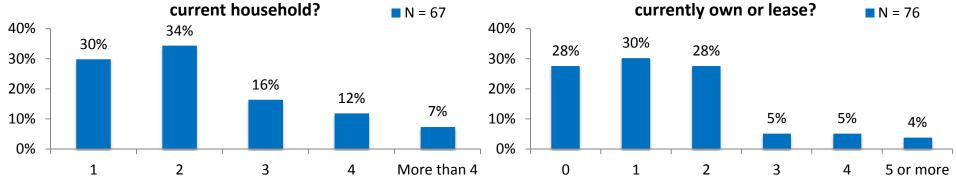
■ N = 67



- **30%** of respondents **live alone**; **34%** live in *two-person households*
- 28% of respondents live in zero-vehicle households; 30% have one household vehicle; 28% have two household vehicles
- 57% of respondents have a gross household income of less than \$50,000; 18% have between \$50,000 and \$100,000

Including yourself, how many people live in your

How many vehicles does your household currently own or lease?

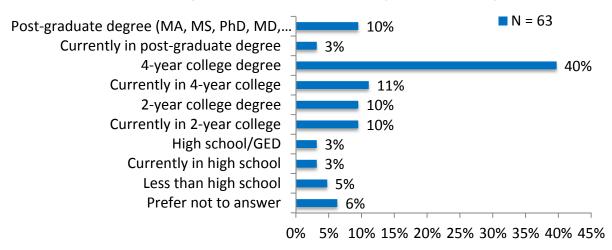




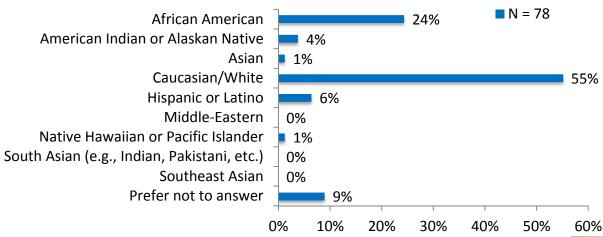
Demographics – Education and Race/Ethnicity

- 42% of respondents do not have a 4-year college degree
- 43% of respondents have
 a 4-year college degree
- 10% of respondents have a post-graduate degree
- About half of respondents identify as Caucasian/White
- About a quarter of respondents identify as African American
- 6% of respondents identify as Hispanic or Latino

What is the highest level of education you have completed?



What is your race or ethnicity? (Please check all that apply.)



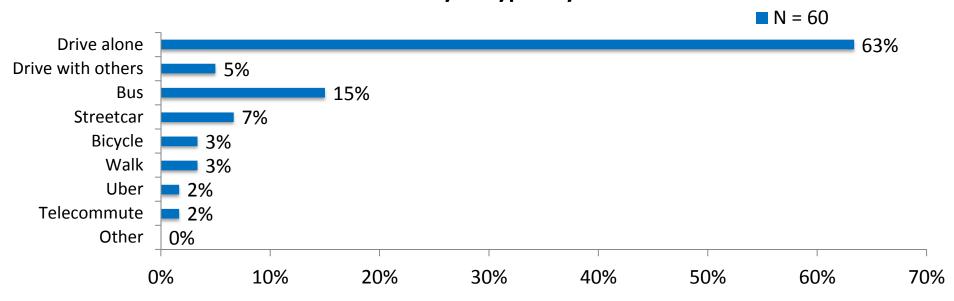


COMMUNITY SURVEY RESULTS: TRAVEL BEHAVIOR / MODAL SPLIT



How Do Community Respondents Commute?

What is the main mode you typically use to commute?



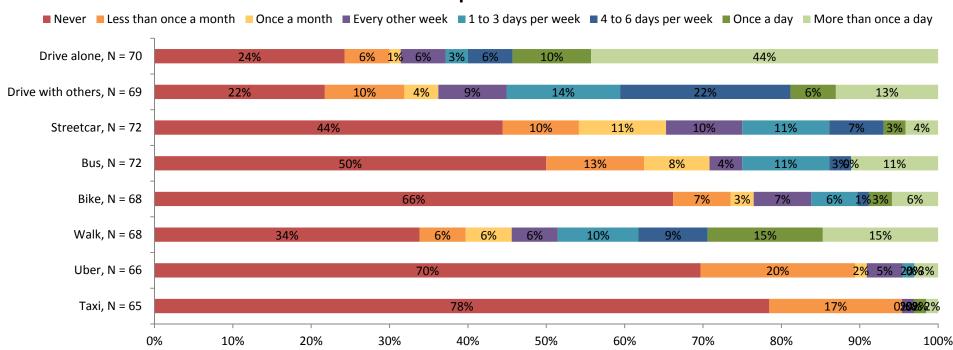
- 63% of respondents commute alone in a car
- 22% of respondents use the bus or streetcar to commute
- 3% of respondents walk, and 3% of respondents bike to commute



How Often Do Community Respondents Use Other Modes?

- 63% of respondents drive alone multiple days a week; more than half drive alone daily
- About half of the respondents walk at least once a week; 30% walk (to a destination)
 daily
- About a third of the respondents use the bus and/or streetcar more than once a month

Please indicate how frequently you CURRENTLY use the following modes of transportation:



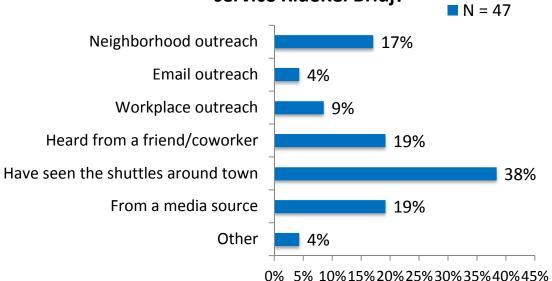


COMMUNITY SURVEY RESULTS: PERCEPTION OF RIDEKC: BRIDJ

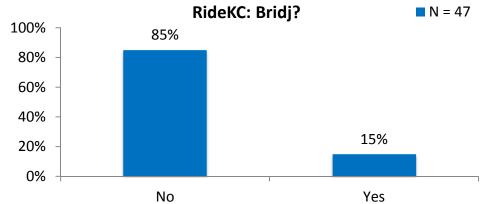


Community Perception of RideKC: Bridj – Outreach





Have you ever used the transportation service



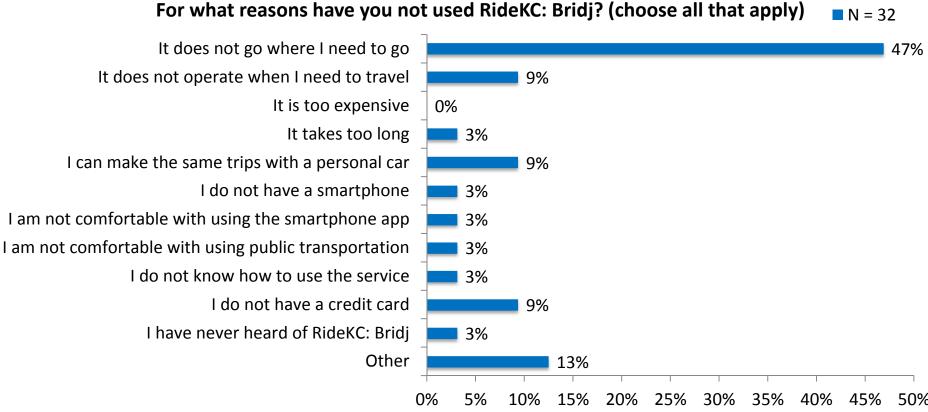
- 41% of respondents have not heard of RideKC: Bridj
- 38% of respondents learned about RideKC: Bridj from seeing the shuttles around town
- 30% of respondents who have heard of RideKC: Bridj learned about the service from some form of outreach
- 85% of respondents who have heard of RideKC: Bridj have never used the service



© UC Berkeley, 2016

Perception of RideKC: Bridj – Barriers to Use

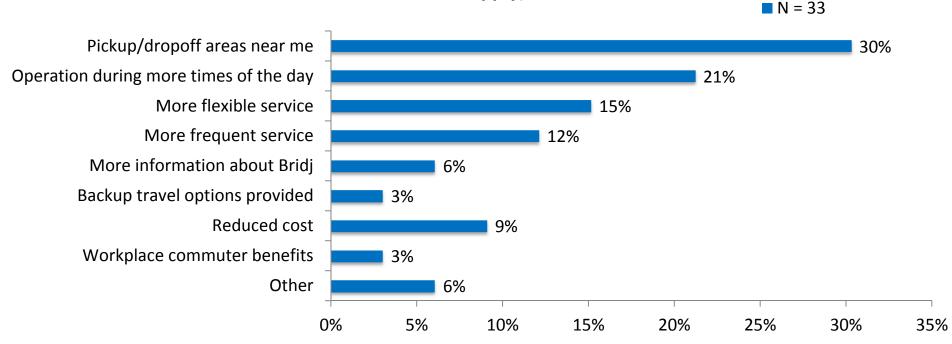
- 47% of respondents do not use RideKC: Bridj because of *geographical coverage limitations;* 9% do not use the service because of *temporal coverage limitations*
- 9% of respondents do not use RideKC: Bridj because they can make the same trips using a personal car



o Sin

Perception of RideKC: Bridj – Desired Changes

What changes to RideKC: Bridj would encourage your use of the service? (choose all that apply)



- 30% of respondents said they would be encouraged to use RideKC: Bridj, if the service area were expanded; 21% said they would use it, if the service times were expanded
- 15% of respondents said they would be encouraged to use RideKC: Bridj, if the service were more flexible; 12% said they would if the service were more frequent

51 tsrc

COMMUNITY SURVEY: KEY TAKEAWAYS



Key Takeaways – Community Survey

- Only 59% of community respondents have heard of RideKC: Bridj.
- Of the 59% of respondents who have heard of RideKC: Bridj, 85% have never used the service.
- The **highest proportion** of respondents **heard about Bridj** by seeing the shuttles around town (38%).
- **About half** of the community respondents say RideKC: Bridj **does not go where they need to go** (47%).
- The majority of respondents (63%) drive alone as their main commute mode to work. Twenty-two percent use public transportation to commute.
- Fifty-one percent of respondents are male, 55% identify as
 Caucasian/white, 24% identify as Hispanic/ Latino, and there is a wide
 distribution of incomes, among the community survey respondents.



ACTIVITY DATA ANALYSIS



Methodology Overview: Activity Data Analysis

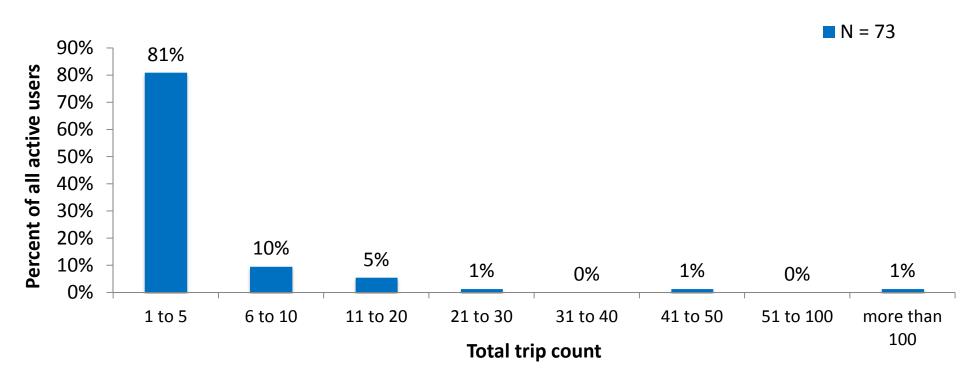
The activity data consist of all user and vehicle activity during the 6 month period from 3/7/16 to 9/6/16. The user-level activity data include a de-identified member ID, travel time, and origin and destination locations for all user trips during the period. The vehicle-level data include stop locations and timestamps for all routes driven by RideKC: Bridj vehicles during the period. Our analysis presents distributions related to components of user trip activity on RideKC: Bridj.



RideKC: Bridj Activity Data Analysis - Trip Frequency

- 47% of people who tried RideKC:Bridj in the past six months took only one trip
- 9% of riders took more than 10 trips with RideKC: Bridj

RideKC: Bridj Trip Frequency* (3/7/16 to 9/6/16)



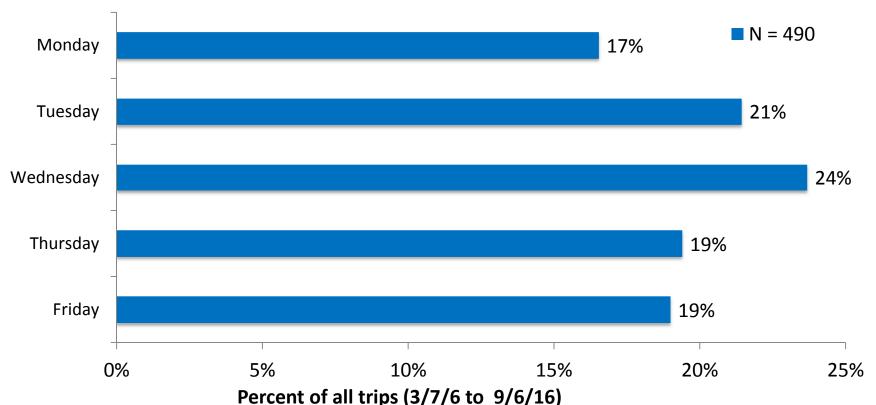
^{*} The trip frequencies displayed above reflect the total trip counts in the actual activity data for *all riders* of the RideKC: Bridj service



RideKC: Bridj Activity Data Analysis – Trip Day of Week Distribution

- Trips are *fairly evenly distributed* throughout the week
- The most trips are taken on Wednesdays (24%) and Tuesdays (21%)

Distribution of Trips by Day of the Week

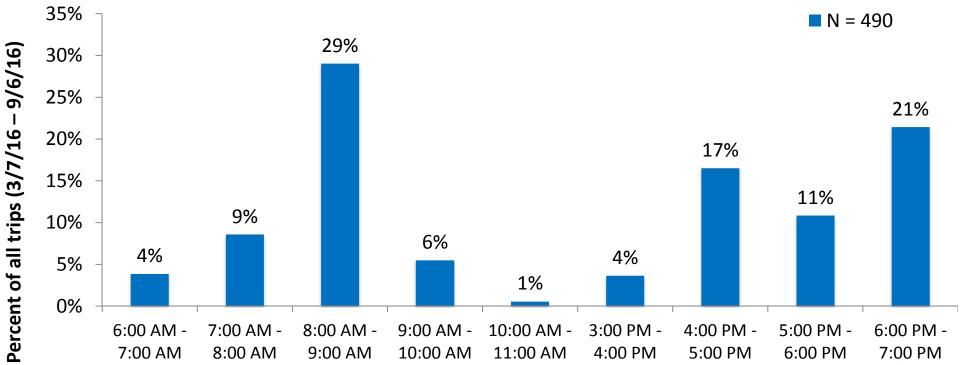




RideKC: Bridj Activity Data Analysis – Time of Day Distribution

- 48% of trips are taken in the morning, and 52% are taken in the evening
- 61% of morning trips are taken between 8:00 and 9:00 AM; 41% of evening trips are taken between 6:00 and 7:00 PM

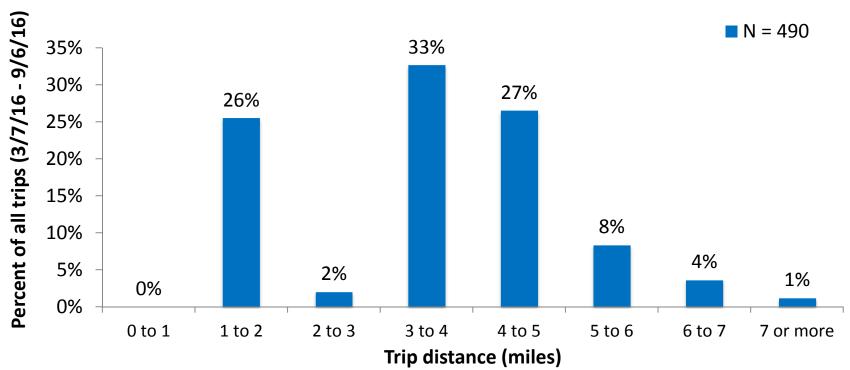
Distribution of Trips by Time of Day



RideKC: Bridj Activity Data Analysis – Trip Distance Distribution

- The average trip distance on RideKC: Bridj vehicles is 3.4 miles
- 28% of user trips are less than 3 miles in distance
- 13% of user trips are *more than 5 miles* in distance

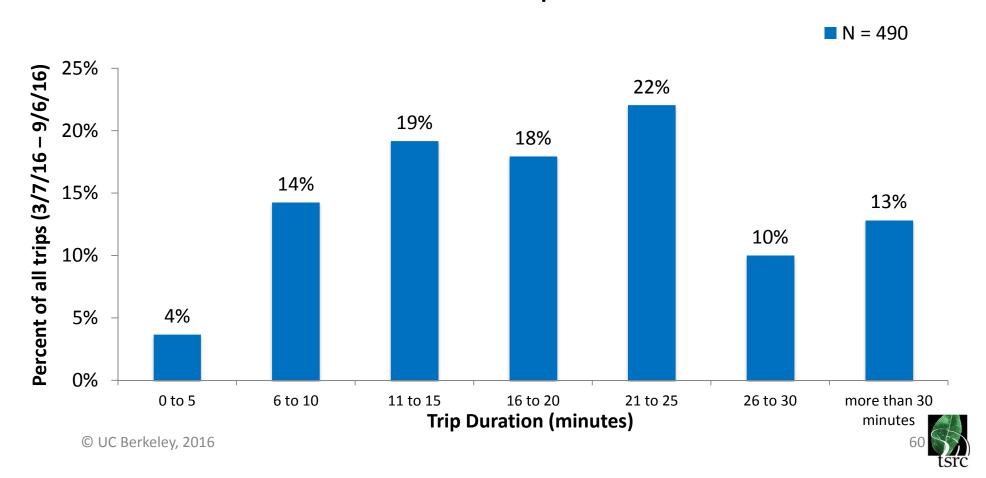
Distribution of Trip Distance



RideKC: Bridj Activity Data Analysis – Trip Duration Distribution

- The average trip duration of all rides taken using RideKC: Bridj is 20 minutes
- 59% of user trips take between 11 and 25 minutes

Distribution of Trip Duration



EXPERT INTERVIEWS



Methodology Overview: Interviews

Interviews of experts involved at various levels of pilot project implementation were conducted, and the findings from completed interviews are summarized in this slide deck.

Questions for the public- and private-sector stakeholders and experts were designed to gauge their involvement and experience with the RideKC: Bridj pilot, as well as their opinions about the successes and difficulties related to project implementation and operations. The interviews provide insights into the unique challenges faced by RideKC: Bridj as a public-private partnership. You can find a full description of expert interview findings in the additional appendix document.



EXPERT INTERVIEW FINDINGS



Goals for the RideKC: Bridj pilot project:

- o To show that the public and private sector can **work together collaboratively** for a common interest of an **efficient** public transit system.
- o **Explore the market** for on-demand services in Kansas City.
- Cause people to change their travel habits by providing an alternative to driving, as well as traditional bus service.

Challenges of the RideKC: Bridj pilot project:

- Marketing the product efficiently to a wide range of people.
- Communicating to residents about how to use the app to help retain engagement.
- Overcoming cultural differences between a startup company and public organization.
- Establishing a common goal for both KCATA and Bridj because this is a 'first of its kind' collaboration.
- Understanding the local transportation patterns and attracting people to a public transit service in a city where driving is the dominant mode.
- Implementing American with Disabilities Act (ADA) compliance when forming collaborations with a private company.
- Operational challenges due to public transit driver unions.
- Adjusting the 'time to market,' which varies for a private company vs. public organization, especially when federal guidelines are involved (6 weeks vs. 8 months timeline difference).
- o **Identifying service areas** that will justify the level of service **during certain times of day.**
- Adjusting the Bridj business model to a less dense city, unlike Boston (where it operates).

64 tsrc

Benefits from the project:

- Setting an example for other cities in the U.S. and Canada that a public-private partnership can work smoothly and efficiently.
- o Giving residents of Kansas City the option of a cheaper alternative to ridesourcing and taxis.
- o Learning about the travel needs of citizens that will help planners identify user demand.
- More efficient transportation by providing similar coverage for lower operating cost.
- The Federal Transportation Authority (FTA) is looking to change policies to lower 'time to market,' which only applies to pilot projects.

Aspects that need to change, if it continues beyond the pilot:

- Right now, it is directional and only operates at certain hours of the day. Beyond a pilot, it will need to operate for longer hours to attract a critical mass.
- Coverage needs to be strategically expanded to encourage people to use RideKC: Bridj for non work-related trips, as well.
- Special attention should be given to the service hours near the downtown hospital area because many hospital employees work specific shifts.
- Better real-time information should be provided to the drivers of the vehicles about passenger number and routing demands.

Lessons learned:

- Governmental agencies are ready to invest in innovation, and federal rules and timelines can be adjusted according to project needs.
- o Operating costs can be reduced dramatically by obtaining a greater number of users.

65 tsre

APPENDIX



APPENDIX

Please see the Appendix PDF document titled "RideKCBridj_Appendix_ExpertInterviews.pdf" for a full description of findings from the expert interviews.

